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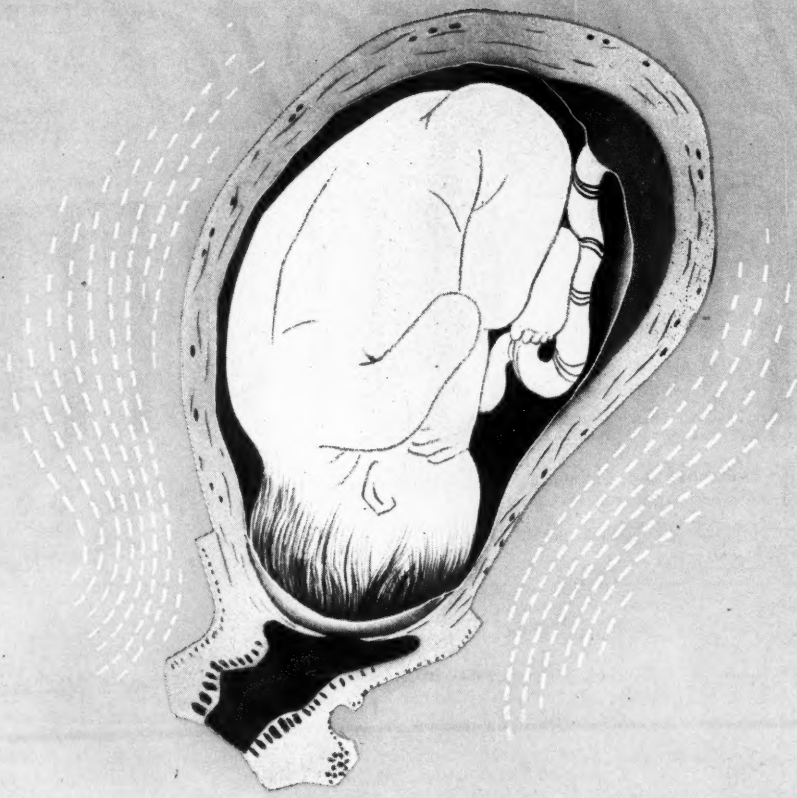

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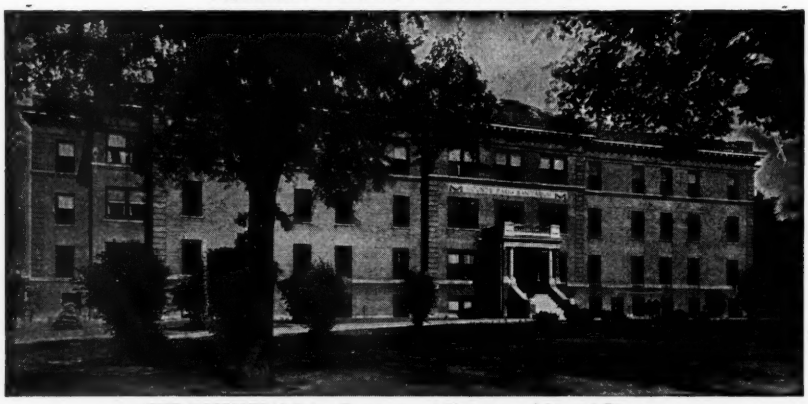

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Original Contributions

Hypothermia in Cardiac and General Surgery

F. JOHN LEWIS, M.D.

Minneapolis, Minnesota

THE intricate control system which maintains body temperature within a narrow range is amazingly effective in a wide variety of environmental situations. Without this control, optimum function of the internal metabolism and long survival is impossible, yet for relatively short intervals, normal regulation may be purposely overcome and the body temperature may be significantly reduced without permanent harm. There is during this period of lowered temperature a striking reduction of the general metabolic rate which makes it possible to occlude the blood flow to all or any part of the body for a much longer period of time than is possible at normal temperatures. Thus, time is provided to do some types of surgery in an open, bloodless field—an advantage which has proven to be useful in intracardiac surgery and in surgery of the great vessels. The bloodless field made possible by hypothermia may also prove to be a worthwhile advantage in doing extensive operations for cancer. Furthermore, a moderate degree of hypothermia has been advocated for poor risk patients who must undergo surgery and it is possible that critically ill, hyperthermic patients may be benefited by a drastic reduction in their body temperature.

In this article the author will attempt to summarize, briefly, some of the provocative new uses of hypothermia, which are still mostly experimental, largely in the light of his own interest and experience.

Open Intracardiac Surgery

Bigelow[2] and independently, Boerema,[3] were the first to demonstrate experimentally that hypothermia makes it possible to operate within the open heart by means of a simple technique. With the body temperature reduced the total inflow to the heart may be occluded and then any chamber may be opened long enough to perform deliberate operations under direct vision. If this is attempted without lowering the temperature, the period of occlusion must be too short for practical use or else the central nervous system, and possibly the heart will be damaged. Hypothermia, by providing sufficient time, has made this uncomplicated way of working within the heart practical for patients as well as for the experimental laboratory.

Technique.—In patients who are to undergo intracardiac surgery for the repair of atrial septal defects[7], anesthetic induction with pentothal and curare precedes the actual cooling. The extremity leads of a cardioscope are fixed in position and a continuously recording rectal thermometer is adjusted. After this preparation, the cooling is started by wrapping the subject in a rubberized cover through which an alcohol solution kept at 25° F. is circulated. A period of one to two and a half hours is needed to lower the body temperature to 29.5 degrees C. (85 degrees F.). Then the temperature of the cooling blankets is raised, the chest is exposed, and the operation is begun, but the body temperature will continue to fall slowly for another hour reaching a low point of about 26 degrees C. (81 degrees F.).

The chest is opened, through an anterior incision with transverse division of the sternum and entry into both pleural cavities at the fourth interspaces. This provides excellent exposure for the exploration and repair. Exploration of the heart is carried out first before the open repair is done by inserting a finger through an opening in the right auricular appendage. By this means the surgeon obtains an understanding of the pathological anatomy which allows him to plan the precise type of repair that will be used.

From the Department of Surgery, University of Minnesota, Minneapolis.

This investigation was supported by Research Grant H-1374 of the National Heart Institute of the National Institutes of Health, Public Health Service, and by Grants from the University of Minnesota Graduate School, and the Minnesota Heart Association.

Just before the right atrium is opened, the channels to and from the heart are occluded. The superior and inferior vena cavae are closed first, then after a few beats, loops of tape are tightened

Fig. 1. Photograph of the open right atrium while the vascular inflow and outflow are occluded. The metal suction tip is placed within the atrial septal defect. Suture repair is about to begin. The head of the patient is to the left.

around both pulmonary roots occluding the pulmonary veins, and finally a clamp through the transverse sinus of the heart is closed to shut off the aorta and pulmonary artery. The aorta is occluded to prevent air embolism while the heart is open.

With the right atrium open, the septal defect is closed with continuous or interrupted silk stitches (Fig. 1). Just as the last stitch is tied the air is washed out of the left atrium by running saline into it through a small tube lying in the defect. This tube is removed as the repair is completed. Before closing the heart, air is evacuated from the right atrium by partially releasing the inferior vena cava thus allowing the atrium to fill with blood. The atrial wound is closed with a clamp and circulation is resumed. Finally, the atrial wound is sutured with a continuous silk stitch. In our human patients the circulation has been interrupted from four to eight minutes.

By the time the chest is being closed the rubberized blankets covering the patient have reached a temperature of 45 degrees C. and the body temperature may have started to rise. This warming-up process is accelerated, after the skin has been sutured, by immersing the patient in a bath of hot water at 45 degrees C. (114 degrees F.). In thirty minutes to one hour the body temperature will have reached 90 to 95 degrees F., and the patient is then removed from the water.

At the time we wrote about our early experience with this method,[7] eleven patients with atrial septal defects had been operated upon with two deaths. Now twenty-two patients with this type of defect have undergone surgery and there have been no additional deaths. The oldest, a survivor, was fifty-two.

This technique is a good one for repairing defects of the atrial septum, but it is not yet clear whether this or one of the other methods of closing these defects will prove to be the best. In any case, it is evident that this type of congenital heart disease is now curable.

Success in operating upon the atrial septum has been a stimulus to test the technique on other regions of the intracardiac anatomy. We have found that hypothermia can be used experimentally to make and repair ventricular septal defects, [11,12] and to operate upon the various cardiac valves under direct vision. It is likely that some of these experimental operations can be adapted to the treatment of human heart disease. Until much simpler and more efficient heart-lung machines are invented or until cross-circulation can be employed with no risk to the donor, hypothermia will play an important part in the new field of open, intracardiac surgery.

Cancer Surgery

More than a decade ago general body cooling was used in a memorable experiment to treat patients with advanced cancer.[5] Though most of the patients withstood the prolonged cooling well, there were, unfortunately, no cures, and there was probably no significant retardation in the onslaught of the disease. Hypothermia failed then as a treatment of cancer but it may now turn out to be an aid in doing some types of cancer surgery.

The usefulness of hypothermia for this type of surgery is due to the fact that it permits a relatively prolonged occlusion of the blood supply to any large segment or organ of the body. The bloodless operating field thus created makes resections, which would otherwise be bloody and difficult, quite dry and easy.

After preliminary experimental work,[10] we have used hypothermia this way to do total right

hepatectomies for metastatic or primary liver cancers (Fig. 2). The patients have been cooled as the cardiac patients were and after cooling the liver was exposed through a right, combined, thoraco-abdominal incision. After a preliminary clearing of the porta hepatis the blood flow to and from the liver was interrupted, and we were then ready to resect the liver. Blood flow was occluded by clamping the thoracic aorta above the diaphragm, the portal vein and the hepatic artery below the liver and the inferior vena cava both above and below the liver. In this way the entire right lobe could be resected with minimal blood loss and adequate time was provided to repair holes in the vena cava and to suture the open vessels in the substance of the liver before the circulation was restarted. The blood flow has been occluded during these operations for forty-five minutes without producing anoxic injury.

Fig. 2. Entire right lobe of the liver containing a large hepatoma which was removed during hypothermia. The patient was a nine-year-old boy. The gall bladder is seen attached to the surface at the left of the photograph.

Four right hepatectomies have been done this way. Two patients survived and there were two operative deaths, both of which were due to post-operative intra-abdominal hemorrhage which apparently started after the body temperature had returned to normal. One nine-month-old infant died a few hours after surgery of hemorrhage and a seventy-two-year-old man died three weeks postoperatively of an intra-abdominal abscess which appeared to be the late complication of hemorrhage.

The most recent patient who had a right hepatectomy during hypothermia was rewarmed before her abdomen was closed and post-operative hemorrhage did not occur. This seems to be the sensible way to avoid late hemorrhage. If it continues to be successful, hypothermia, plus high vascular occlusion, may prove to be a useful technique for doing extensive cancer operations, not only in the liver but in other areas of the body as well.

Surgery of the Aorta

General hypothermia has found a limited though distinct application for doing resections of the thoracic aorta.[4] Here again, as in intracardiac and cancer surgery, hypothermia allows a longer vascular interruption than is tolerated at normal body temperature. The abdominal aorta below the celiac and the renal arteries may be safely interrupted long enough at normal temperatures to remove an aneurysm and stitch a graft in place, but in the thoracic aorta this may not be possible. A sufficient period of occlusion at the thoracic level to allow removal of a traumatic or syphi-

litic aneurysm and replace it with a graft, may lead to spinal cord damage. With the body temperature lowered, however, the period of occlusion that can be used safely is much longer. Cooling is not necessary when resecting a coarctation of the aorta and replacing it with a graft, for patients with this disease have an extensive collateral circulation which bypasses the obstruction.

Surgery in "Poor Risk" Patients

Bigler and McQuiston[1] in this country pioneered the use of hypothermia for "poor risk" children during heart surgery, but though the danger of an elevated temperature in these patients has been generally recognized, planned hypothermia as part of the anesthetic technique has not been widely adopted. Furthermore, at least in this country, moderate hypothermia has not often been tried for desperately ill patients who have to undergo other types of surgery. In Europe, on the other hand, Laborit[6] and other French surgeons, particularly, have advocated moderate degrees of hypothermia or "artificial hibernation" for weak, aged, or critically ill patients who must undergo major surgery. A combination of drugs called a "lytic cocktail" has been used with limited surface cooling to produce a slight reduction in body temperature prior to surgery.

Our own experience with this use of hypothermia has been limited but we have been impressed, nevertheless, with the ability of ill and aged patients to withstand surgery while their temperature was intentionally reduced. Frankly, however, it is not yet certain that hypothermia will help in bringing "poor risk" patients through major operations. To reach such a conclusion concerning this use of hypothermia or "artificial hibernation" a statistically controlled clinical study may be necessary and none, as yet, has been forthcoming.

Patients with Fever

Some effort to reduce the temperature of patients with high fever through the use of alcohol sponge baths, wet towels, and fans has long been a common practice. Such methods plus the use of antipyretics have been employed when the temperature, for any cause, has risen above 104 to 105 degrees F., and they have been abandoned again when the temperature has fallen to 102 degrees F. or lower. This treatment is often helpful but it may not have been carried far enough. There has not, for example, generally been a persistent systematic effort to reduce the temperature in these patients to normal or even subnormal levels and keep it there, yet such an effort may, we think, occasionally be strikingly beneficial. Certainly, the exhausting effect of a continuous fever with the racing metabolic rate that accompanies it may be crucially harmful and probably in no sense helpful.

This line of thinking has led us to use cooling in eleven seriously ill, feverish patients who have usually been suffering from postoperative complications. Chlorpromazine* plus sodium luminal was used initially for sedation and the patient was then placed on a large rubberized blanket containing a long rubber tube through which a cold alcohol solution was pumped (Fig. 3). In order to bring the temperature down it was usually necessary to cool the blankets to about 40 to 50 degrees F., but once the rectal temperature had reached a level of 95 to 97 degrees F. it could be kept there by maintaining the temperature of the blanket between 70 to 80 degrees F. Additional drugs were not always necessary after the temperature had fallen, and the patient could be kept at a normal or slightly subnormal temperature for days, if necessary, until, as cooling of the blanket was required no longer, it was evident that the tendency to fever had disappeared.

This is obviously merely palliative therapy and we have used it only for critically ill patients. It has, nevertheless, apparently been beneficial for several individuals. Of the eleven patients treated in this fashion five were apparently benefited and survived, three were helped temporarily but they finally died, and three succumbed without even temporary improvement.

Discussion

A few of the potential, clinical applications of hypothermia have been touched upon in this short report, but it would be highly presumptuous at this time, to conclude that hypothermia is going to be of lasting value in any of the ways described. Certainly, both regional and general hypothermia have turned out to be disappointing in the past after a calm evaluation stilled an early flurry of enthusiasm. It is possible that the uses of hypothermia listed here may also be superseded by other methods, or that they may for various reasons, never be accepted. It is true, even now, that many of the things that can be done with hypothermia can be done with other means, but possi-

*"Thorazine" distributed by Smith, Kline and French.

bly not so well nor so simply. Simplicity is clearly one of hypothermia's most attractive qualities.

Fig. 3. This illustrates the technique used for cooling a hyperthermic patient. The rubberized blanket, cooled by the machine at the left, is seen beneath the patient. Usually this is covered with a single sheet. A rectal temperature recorder is placed on top of the refrigerating machine.

This quality of simplicity plus the other valuable characteristics of the technique have made it what is probably the best way at present to repair certain intracardiac defects under direct vision. For the repair of atrial septal defects and perhaps for other intracardiac anomalies the interval of blood flow occlusion allowed by moderate degrees of hypothermia is sufficient. Patients of a wide age range and various degrees of illness can successfully withstand this moderate degree of hypothermia.

For the future there is the challenge of trying to lower the level of safe, clinically practical, hypothermia. When temperatures significantly below those presently employed are possible, the method will doubtless have a wide new range of usefulness. This objective may soon be achieved for it is now possible to lower the temperature of rats and dogs down to a few degrees above freezing and revive at least some of them without sequelae.[8,9]

In this brief exposition there has been no space to try and describe the physiology of hypothermia, but this is just as well, for much that has been left unexplained is still unknown. A number of alluring pathways, each seemingly worthy of a long exploration, tempt the investigator of hypothermia; perhaps at least one of them will lead to a better understanding of this intriguing phenomenon.

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Heredity of Diseases of the Heart, Blood Vessels, and Blood

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DISEASES of the heart, blood vessels and blood constitute a large fraction of the organic ailments dealt with by the practicing physician. Usually of a serious nature, these diseases are frequently dependent in greater or lesser degree upon hereditary factors. Diseases having definite or possible genetic significance are shown in Tables I and II, with the more strongly hereditary conditions heading each list.

TABLE I. DISEASES OF THE HEART AND BLOOD VESSELS

Disease	Genetic Pattern
"Primary"	
Telangiectasia	Dominant
Congenital lymphedema	Usually dominant
Glycogen storage disease of heart	Probably recessive
Essential hypertension	Dominant factor (s)?
Rheumatic fever	Genetic susceptibility?
Congenital heart defects	Genetic factors?
Coronary heart disease	Genetic factors?
"Secondary"	
Arachnodactyly	Dominant
Friedreich's ataxia	Recessive
Myotonia dystrophica	Dominant
Muscular dystrophy	Several genetic types
Mongolism	Genetic factors?

"Primary" Types

Telangiectasia, an anomaly of the small blood vessels, is a well-known dominant trait whose presence is usually first heralded by nosebleeds. Not so widely known is the occasional occurrence of pulmonary arterio-venous fistulae as part of the clinical picture.

Congenital lymphedema, or Milroy's disease, is an uncommon anomaly of the lymph vessels which generally follows a dominant pattern of inheritance.

Glycogen storage disease of the heart is a rare and fatal abnormality of the heart in infants which is usually diagnosed only after death. Its occurrence in siblings has strongly suggested a recessive mode of inheritance. It is not to be confused with the hepatic type of glycogen storage disease, also probably a recessive genetic disease.

Essential or primary hypertension constitutes one of the most common chronic diseases in the adult population. Its familial occurrence has long been recognized, and a dominant mode of inheritance has been suggested by some workers in view of its frequent appearance in successive generations. However, its clinical features vary greatly, probably due to a variety of complicating environmental factors. Genetic analysis of this trait in populations is complicated by the variation in clinical picture, confusion with secondary types of hypertension, and the possibility of its not being a single entity.

Rheumatic fever, with its frequent heart involvement, is another of the common diseases with a well-recognized familial tendency. Innumerable genetic studies have been reported, with a variety of results and conclusions. Some of these appeared before, some after, the relatively recent finding that streptococcal infection is the immediate precipitating factor for an attack of rheumatic fever. Thus, the problem consists of determining whether the distribution of rheumatic fever cases is merely a random event (rheumatic fever is said to follow approximately 3 per cent of Group A

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Adapted from author's contribution to symposium on clinical genetics at meetings of American Society of Human Genetics, Gainesville, Florida, Sept. 8, 1954.

beta hemolytic streptococcal infections), is determined by environmental factors, or whether it depends upon hereditary susceptibility of either a specific or general nature. The answer to this question awaits the development of biochemical studies, but present evidence suggests that susceptibility is at least partially dependent upon genetic factors.

Congenital heart malformations have recently been shown to have a fourfold increase in incidence in subsequent siblings of affected cases as compared to the general population. Other than this, and a known relationship to maternal Rubella in a small minority of cases, the etiology remains essentially unknown.

Coronary heart disease, like hypertension, is known to run in families, though to a less striking extent. Its occurrence is probably partially related to dietary factors, but the clarification of its exact etiology awaits further metabolic and chemical studies.

"Secondary" Types

Arachnodactyly, or Marfan's syndrome, is a dominant hereditary condition with a variety of striking clinical manifestations. The characteristic long slender limbs and digits have accounted for its name. Frequent eye involvement, with displacement of the lens, has made this condition well known to the ophthalmologist. Heart disease is also frequently associated. Formerly, the most common cardiac lesions were considered to be septal defects, but it is now agreed that medial degeneration of the aorta, often with aneurysm formation, is the typical cardiac manifestation of the disease. The syndrome illustrates beautifully the genetic phenomena of pleiotropy and variable penetrance.

Friedreich's ataxia has been viewed primarily as a disease of the central nervous system, even though some of the earliest case reports described myocardial changes. Cases simulating rheumatic and congenital heart disease are now being detected with increasing frequency by alert cardiologists familiar with its complete clinical picture. The disease generally shows a typical recessive type of inheritance.

Myotonia dystrophica, a dominant disease also familiar to the neurologist, sometimes shows myocardial changes. The same is true for the various genetic types of *muscular dystrophy* (dominant and sex-linked recessive forms).

Mongolism, one of the most common and best known types of mental deficiency (incidence of about one in 750 births), is considered by some to be partially dependent upon genetic factors, but its etiology remains essentially unknown. An association with increased maternal age has been reported by nearly all investigators. In 25 to 40 per cent of cases there are associated congenital heart defects, usually septal defects, but encompassing the whole spectrum of congenital heart anomalies.

TABLE II. DISEASES OF THE BLOOD

Disease	Genetic Pattern
Classical hemophilia	Sex-linked recessive
Afibrinogenemia	Recessive
Thalassemia	Recessive
Sickle-cell anemia	Recessive
Congenital hemolytic jaundice	Dominant
Hereditary nonspherocytic hemolytic anemia	Dominant
Ovalocytosis	Dominant
Pelger's nuclear anomaly	Dominant
Fanconi's anemia	Probably recessive
Pernicious anemia	Probable genetic factors
Polycythemia vera	Possible genetic factors
Familial neutropenia	Possible genetic factors
Familial eosinophilia	Possible genetic factors
Thrombocytopenia	Sometimes a genetic factor?
Leukemia	Sometimes a genetic factor?

Diseases of the Blood

Hemophilia still ranks as the best known of the hereditary diseases of the blood, having been the subject of countless articles in the lay press and continuing to be the classical example of sex-linked recessive inheritance in all textbooks of genetics. With the recent development of more precise tests for deficiencies in the clotting mech-

anism of blood there has been a critical review of cases which formerly would have been labeled merely as hemophilia or hemophilia-like disease. These studies have revealed a whole "family" of diseases. Classical hemophilia remains the most common type, yet clinical evidence suggests that this disease may represent a series of alleles, each producing disease of different severity. One of the proposed classifications, that by the group at the University of North Carolina,[1] is as shown in Table III. All of these diseases are bleeding disorders involving clotting abnormalities. Incidentally, the frequently asked question of whether hemophilia can occur in the human female can now be answered in the affirmative. A rather recent and remarkable finding has been the recognition of a disease in dogs simulating human hemophilia both in laboratory features and in genetic pattern.

TABLE III. HEMOPHILIA AND RELATED DISEASES

Disease	Genetic Pattern
Classical hemophilia (deficiency of antihemophilic globulin or AHG)	Sex-linked recessive allelic series
Hemophilioid state A (Parahemophilia or Owren's disease; deficiency of accelerator globulin or AcG	Probably dominant
Hemophilioid state B (deficiency of serum accelerator Factor or SAF)	Dominant
Hemophilioid state C (Christmas disease; deficiency of plasma thromboplastin component or PTC)	Sex-linked recessive
Hemophilioid state D (deficiency of plasma thromboplastin antecedent or PTA)	Probable genetic factor

Afibrinogenemia, another bleeding disorder which could well have been included in Table III, has proven to be as interesting as it is rare. Just as genetic theory requires of a very rare recessive trait, this condition involves cousin marriage in a high percentage of reported cases. Heterozygotes, or carriers of a single abnormal gene, show a reduced amount of fibrinogen, and can therefore be identified despite the absence of clinical symptoms.

Thalassemia, previously better known as Mediterranean anemia because of its higher incidence among Mediterranean peoples, is another recessive trait in which the heterozygote shows a lesser but definite effect. In fact, the homozygous condition has been termed thalassemia major, and the heterozygous condition has been called thalassemia minor. This situation raises the purely academic question of nomenclature, whether to designate the thalassemia gene as a recessive or a dominant.

Sickle-cell anemia is somewhat similar to the foregoing in its genetic features. The homozygote shows the full-blown disease, and the heterozygote ordinarily shows merely the sickling trait. Biochemical studies have shown the former to possess 100 per cent abnormal "s" hemoglobin usually, and the latter approximately 40 per cent. Sickle-cell anemia shows a marked racial predilection, being a disease almost exclusively of individuals with negro ancestry. Interaction between the sickle-cell gene and the thalassemia gene has been identified, resulting in a clinical condition resembling sickle-cell anemia. In addition, another abnormal hemoglobin, hemoglobin "c," has been identified, and has been found to have a similar genetic pattern. It appears that the current combined clinical-genetic-biochemical studies of the hemoglobins will reveal a whole series of genetically distinct but clinically related diseases.

Congenital (hereditary) hemolytic jaundice has been a favorite textbook example of dominant inheritance for many years. In addition, it has been used to illustrate the application of genetics to clinical medicine. Some bearers of the gene will suffer severe hemolytic crises, while others will remain asymptomatic. All cases can be identified by the presence of abnormal erythrocytes, spherocytes, with increased osmotic fragility as compared to normal erythrocytes. Since surgical removal of the spleen affects a clinical cure in this condition, splenectomy has been suggested as a prophylactic measure to be used in asymptomatic relatives who have been identified by family studies as carriers of the gene. In the past several years a new disease has been described, *hereditary nonspherocytic hemolytic anemia.* It resembles the previous disease in its genetic pattern, but it does not respond to splenectomy.

Ovalocytosis, or elliptocytosis, dominantly inherited, is a relatively uncommon anomaly of the

red blood cells as implied by the name. The trait is of rather minimal clinical importance.

Pelger's nuclear anomaly, again a dominant trait, involves decreased segmentation of the nuclear material in the polymorphonuclear leukocytes.

Fanconi's anemia was first described several decades ago, but in recent years there has been a real influx of cases into the medical literature. The disease presents as a hypoplastic anemia together with a number of other varied signs, skeletal anomalies being among the more conspicuous. Its frequent occurrence in siblings suggests a recessive inheritance.

Pernicious anemia rates as one of the most celebrated of human ailments, having been the subject of some of the most brilliant of medical discoveries. Though its familial tendencies have long been recognized, its exact etiology and its basic or primary nature remain largely unknown.

Polycythemia vera, familial neutropenia, and familial eosinophilia have all been described as showing familial tendencies in some cases, just as the names suggest. However, the etiology of these conditions continues to be mainly a matter of speculation, and they may each be loose groupings of several entities.

Primary thrombocytopenic purpura has also been described as showing familial tendencies in some cases, but it is more interesting in its "pseudogenetic" features. Thus, women with this condition, whether splenectomized or not, can have infants who show a transient thrombocytopenia (low platelet count) during the first few weeks following birth.

Leukemia has been the subject of intensive investigation. As with the majority of malignancies, the etiology remains obscure. A few pedigrees suggest that hereditary factors may play a role in an exceptional case.

Many other disorders of the blood and vascular system have also been described as familial or hereditary, but usually the evidence rests on only a scattering of pedigrees. Moreover, the disorders themselves have often been rather poorly defined clinically. There is little doubt that new hereditary diseases of the blood will be identified, especially as progress is made in the field of blood proteins. Thus, pediatric cases of a recently recognized abnormality, *agammaglobulinemia,* may represent a sex-linked recessive gene. Even as it is, the currently known hereditary diseases will progressively attain greater clinical significance as those of environmental origin gradually come under medical control.

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MONIES FOR MEDICAL SCHOOLS

The first 1954 distribution of unrestricted funds to the nation's eighty medical schools was made in July by the National Fund for Medical Education. These 1954 grants totalled $2,176,904.71, including $1,101,000 from the medical profession through the American Medical Education Foundation.

Each of the seventy-four four-year medical schools received $15,000 plus $25 per undergraduate medical student enrolled in the school. Each of the six two-year schools received $7,500 plus $25 per student. Added to these grants were gifts of individual doctors to designated schools.

Since 1951, nearly seven million dollars has been awarded to the country's medical schools—half of this total contributed by the medical profession. Fund grants, are used by the schools primarily to fill teaching vacancies, to create new faculty posts and to initiate courses in areas of recent scientific advances.

Psychiatric Aspects of Ulcerative Colitis

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IT IS NOW generally accepted that emotional disturbances may produce functional and organic changes in various organs of the body. Repressed emotional conflicts, unfulfilled desires, long-standing deep frustrations, feelings of guilt and fears of one type or another are factors that frequently manifest themselves in the development of physiological and pathological alterations in the human body.

Emotionally conditioned illnesses are prevalent and widespread. Emotional factors frequently block the recovery of an illness that otherwise would respond to medical care more rapidly and more completely. The resolution of these emotional factors is necessary for the patient's recovery. Unless this is accomplished many patients may develop a chronicity of disabling, discomforting symptoms that produce a state of invalidism.

Psychiatric aspects implies behavioral aspects. Behavioral aspects includes all that has gone before in the way of life's experiences and the development and organization of man's defenses, with which to meet new situations, especially those that threaten his well-being. Behavior then, is a process of adaptation of the organism between physiological needs and external circumstances.

The dynamic approach to the understanding of human behavior and its relation to organic lesions, still meets with some resistance from physicians and students of medicine. This is somewhat understandable when one considers that psychiatry must, in a sense, compete with a more easily understood and more objective and tangible approach to disease, as demonstrated in those illnesses where known etiologic factors are present, laboratory data confirm a dysfunction and very real pathological tissue changes can be visualized. It is important, however, that the physician recognize that not only does the patient have a physical disease but that the patient is already possessed of behavior patterns to which the passing disease process has merely been added.

Physicians must not lose themselves in their consideration of the pathologic and bacteriological aspects of a disease, to the point where they lose sight of the meaningful data in the patient's life history. They must recognize that the patient's past experiences, his capacities and his motivation toward the future, all may serve as determining factors in the way in which he will react to any given organic process and also may be the deciding factor in the precipitation and continuation of a patho-physiological disturbance.

The importance of emotional factors in recovery from many physical diseases is now stressed by medical schools throughout the student's entire training. Most physicians are now thoroughly conditioned to the recognition of the inseparability of mind and body. The application of this knowledge has aided greatly in the treatment of psychosomatic disorders. To lose sight of the emotional factors means losing an important contribution to the patient's welfare.

Ulcerative colitis is one of many illnesses having emotional disturbances as a factor in their etiology. It is a disease that is notoriously resistant to treatment and is severely disabling. Unresolved emotional problems delay and may prevent recovery in this condition. There are three phases of treatment: medical, surgical and psychiatric. All three are important. All three must be given careful consideration in the treatment program.

The emotional factors may vary in degree from case to case and play a more important part in one patient than in another. It can be said, however, that there is an emotional disturbance in every case of "non-specific" colitis. Unless the emotional factor is solved, medical and surgical

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care will be greatly retarded and frequently complete cure will not be possible.

Careful investigation of the life experiences and emotional responses of patients suffering from ulcerative colitis, reveals a close relationship between the appearance of a painful psychological situation and the appearance of symptoms of the disease. The histories of these patients show that they fall into very similar categories. They show many infantile traits, among them an inability to control the bowel—a common infantile response to fear.

The ulcerative colitis personality according to Daniels,[3] is apt to be self-centered and dependent. The dependency is shown particularly toward the mother or a mother substitute, frequently an older sister. This dependency is often maintained by the involved parent or substitute, at the expense of the patient, especially through fostering illness under the guise of care. As would be expected in dependent persons, many ulcerative colitis patients are emotionally and sexually immature, and do not carry responsibility well. The Yale group called them the "giver-uppers." In this they are the opposite of the peptic ulcer patients, who are aggressive as a rule and seek responsibility. The males are inclined to be of the passive type, pathologically attached to the mothers and frequently unmarried. Of Murray's[8] original series of fifteen cases, seven were men and unmarried. The women, who are more frequently married, are apt to be of the fussy type of housewife, with a marked sense of neatness.

Wittkower[9] found that psychiatric disorders were far more frequent in the ulcerative colitis patients than in the average population. These manifestations antedated the colitis and were so gross that a special controlled group was not deemed necessary. He found no uniform personality make-up, but his cases fell into three groups, with common characteristics within the group; a fourth group consisted of the miscellaneous personality types. The first group was characterized by obsessional traits; the second, which was made up entirely of women, by hysterical traits; and the third by depressive or schizoid trends. The personalities in childhood coincided with those in adult life, except that there was often an exaggeration of characteristics after maturity.

Comparative studies by Grace, Pinsky and Wolff[6] of carefully matched groups of patients suffering from ulcerative colitis have shown that the length of illness, rate of serious complications and mortality rate were all considerably less in a group that was managed by the psychiatric approach, than in a controlled group in which the importance of the emotional factors was either not recognized or was neglected.

To theorize about the dynamics whereby psycho-biological forces result in a demonstrable organic pathology and physiological malfunction is indeed intriguing. Many hypotheses have been postulated but all leave much unanswered. Perhaps it will never fall within the scope of man to understand all about himself, either as a physical being or as a thinking and feeling organism; nevertheless, we must continue to strive to solve these problems in order to further man's welfare.

In discussing the role of the hypothalamus in relation to psychosomatic disorders, Grinker[7] states:

"The hypothalamus developed from the basal portion of the diencephalon under the influence of the medial forebrain bundle is in a position favorable for its role as a central integrator of several important functions It receives afferent fibers from the ascending tracts by way of the thalamus and subthalamus, and sends efferent fibers which directly or indirectly affect the activity of the entire autonomic nervous system. The hypothalamus integrates individual activities of viscera, endocrine glands, and smooth muscles with reference to the economical needs of the entire organism. Such regulation and integration of the body's internal milieu serves to maintain what Cannon termed 'homeostasis.'

"If the hypothalamus is an autonomic center concerned with maintaining a constant internal environment, it probably has two general systems, each with its own afferent and efferent connections and acting reciprocally to each other. There is considerable evidence that these dual centers exist. The posterior hypothalamus is an orthosympathetic and the anterior a parasympathic center. The hypothalamus represents visceral activity in more special highly organized combinations, a regrouping from the lower levels of the nervous system from such centers as the spinal, bulbar, pontine, et cetera. Its orthosympathetic areas control and integrate all visceral activity, its parasympathetic areas are more highly specialized and discreet."

According to Fulton[5]:

"The autonomic division of the nervous system can no longer be regarded as a purely peripheral system, but rather as an elaborately organized division of the

central nervous system with representation at all levels. At each level, moreover, the somatic and autonomic systems dovetail with one another, and while the somatic may predominate in a given region—and thus obscure the autonomic component—it is generally impossible to evoke a somatic reflex that does not have an autonomic concomitant of central origin."

Alkan[2] first clearly stated that organic disease may be profitably studied by psychological methods. He indicated that psychogenic disturbances within the field of the autonomic nervous system may result finally in organic changes, the morphological mechanisms of which form only the last link of an intricate causal chain. He stated that spasms of smooth muscle, which secondarily lead to anemia of an organ, stasis, muscular atrophy or infection may be the expression of emotional conflicts. As a result of these secondary factors, organic changes result in the visceral tissues or somatic structures, which of themselves, as terminal events, are irreversible and constitute the so-called organic disease.

Alexander,[1] through his psychoanalytic researches, called attention to the role of psychic conflicts in the etiology of gastrointestinal disorders. He stated, however, that no disturbance of innervation of an organ could symbolically express a specific phantasy or a repressed idea. On the other hand, an organ's specific function could be used to express a tendency or psychic direction which by a process of conflict would not normally be expressed through the voluntary nervous system and its organs of expression.

Fulton[4] has stated:

"Newer disclosures concerning the relation of the cerebral cortex to the autonomic nervous system give an adequate physiological basis for the relationship long recognized between mental states and visceral processes. To be a little more specific, it is clear that one now has adequate reason for believing that the load which is placed upon the heart and circulation may be determined in large measure by the mental status of the individual, and be thus quite independent of the more obvious factors of over-exercise and exertion. The heart and circulation may be worked just as hard, to just as much of a detriment to the body as a whole, from the swivel chair as from the rower's seat. Many disturbances of gastro-intestinal functions undoubtedly have a similar basis and one might add that instead of referring to them as "psychogenic disturbances" one may more appropriately designate them as purely physiological aberration and explicable in terms of recognized physiological mechanisms. The more precise analyses of these psychosomatic relationships will come from the study of man, and hence can come only through active collaboration between clinician and physiologist."

In anxiety, danger is not real; it is unknown, internal, and results from an increase in instinctual tension demanding expression. Freud called it a condition signal within the ego, conscious within the personality as a warning of impending danger. Anxiety produces specific unpleasurable feelings, efferent discharges and their perception. Anxiety often results in a paralysis of certain higher ego functions. It is, then, the first sign of an autonomic influence on the cortex which has been learned by previous testing to indicate danger for the organism. It is a feeling which accompanies autonomic forces sufficiently strong to overcome cortical inhibition and force the cortex into activity, movement resulting, in an attempt at solving the situation which has evoked an internal tension. The organism attempts to solve the conflict by psychological measures equivalent to fright or flight. Compromises at times are attempted. Successful solutions are frequently not possible and the cortex will allow regression and infantile modes of emotional expression for the sake of avoiding prolonged or greater emotional feeling. The result is visceral expression or organ dysfunction, that constitutes the first step toward organic disease.

Psychiatric consultation is not always necessary in the treatment of ulcerative colitis. Psychotherapy can, in many instances, be successfully carried out by the attending physician, provided he is conditioned to the patient's needs, shows a real interest in the emotional aspects of the illness and has adequate understanding of what psychotherapy entails. When one considers the personality make-up of most patients with ulcerative colitis, it becomes evident that a supportive type of treatment will usually be the most successful. A supportive approach is a necessity during the acute phases of this disease. Some therapists might argue this point and claim that supportive type of treatment weakens the patients by making them too dependent upon the physician, thus making it difficult for them to build up their own resources to a point where, upon recovery, they can again take their place in society. There is a degree of

danger in supportive treatment unless it is done adeptly. There is a definite place for more direct and intensive psychiatric therapy when the patient has improved to a point where the uncovering of painful emotional experiences will not endanger a relapse of the disease.

Careful attention to the physical treatment of the patient, applied daily, with a goodly mixture of support and protection will be found to be the best treatment. During the course of therapy, the patient must be given ample opportunity to express fully his life's experiences in a longitudinal fashion, starting with his childhood experiences and on up through his school years, adolescence and college, his work adjustments, social adjustments, including marriage; in fact, an opportunity to express everything that has happened to him up to the time of the illness. The attitude of the therapist must be that of a sympathetic listener. There is no room for admonishment, lecturing or preaching to a patient of this kind. From time to time during the interview, acknowledgment of the nature and meaning of the life's experiences of the individual should be made in a fashion that shows the patient a sympathetic understanding and carefully avoids any manifestation of unfavorable or critical attitude toward the patient and the way in which he has lived.

It is well for the patient from time to time in the course of the interviews, to be reassured of his physician's attitude toward him. It is necessary to be quite emphatic at times in showing the patient that the physician desires to understand him, recognizes him as a worthy fellow and shows by word and manner, that in addition to being a medicine man, the doctor is a counselor and friend.

Since no patient lives in an isolated emotional environment, it is necessary for the physician to be thoroughly acquainted with all the contributing factors in the immediate life situation of the patient. This entails interviewing many other members of the family, especially the husband or wife. Oftentimes unpleasant relationships between immediate members of the patient's family or in-laws, have helped to create an unbearable situation for the patient, and thus contribute to his illness. In these instances every effort should be made to remove these disturbing factors. It is often necessary to exclude certain visitors, who the physician feels would be unwelcome to the patient. Isolation may be necessary and advantageous in some instances in order to avoid unfavorable reactions on the patient from incidents occurring in the immediate environment.

The nursing staff in charge of the patient should be adequately briefed relative to the particular significance of their part in the treatment program. In these days of nursing shortage and understaffing of competent, well-trained nurses, those in immediate charge of the nursing duties on a given section of the hospital are usually over-worked and since they are human, their dispositions do not always make for the best relationship with the patient. This is particularly true in a case requiring very close attention to the patient's physical needs, such as feeding, cleanliness and attention to exactness in regard to medication. Since the ulcerative colitis patient is usually emotionally ill-at-ease, he is quick to sense omissions in his care and interpret neglect as being willful, because of the particular nature of his illness. Every effort should be made to create, as far as possible, an element of smooth teamwork on the part of the attending physician and the nursing staff. Unless this is done, repeated incidents will happen during the course of the day that will largely undo what the physician is trying to accomplish.

Summary

1. The need for the consideration of emotional disturbances in the treatment of ulcerative colitis is pointed out.

2. The hypothalamus is discussed in the light of its being an integrating center for autonomic nervous function and its relation to emotional stresses is reviewed.

3. The nature of anxiety and its effect upon physiological states is described.

4. Team work in the treatment of ulcerative colitis is stressed. This team work calls for recognition and proper timing on the part of the surgeon, internist and psychiatrist in relation to their contribution to the treatment program.

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Meconium Peritonitis

Report of a Case and Review of the Literature

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Report of Case

The patient was a newborn infant, whose birth weight was 6 pounds 14½ ounces, and length 20 inches. The child was born spontaneously by vertex presentation after normal labor. The mother's antenatal course was uneventful.

During the following two days, temperatures were taken on the infant four times a day; the readings being as follows:

Minimum reading 97.6 at birth.

Maximum reading 97.8 at 10:00 A.M., the second day of life.

The color at all times was good, and the baby was put to breast after the usual twenty-four-hour waiting period. The infant was alert, the chest was clear, and no evidence of abnormality was noted until the morning of the second day of life, at which time the mother called the physician to her bedside and said that she thought the abdomen of the child was somewhat distended. There was no evidence at this time of any fetal distress, and the doctor who saw the baby was unable to find any physical abnormality other than a mild distention of the abdomen. The liver and spleen were both palpable and the abdomen was soft. The latter was tympanitic over much of its surface.

Approximately seven hours after the abdominal distention was initially observed, the baby was again examined, the distention previously noted had somewhat increased. The physician suspected meconium ileus had occurred and gave a 2-ounce normal saline enema, which was returned along with a small amount of inspissated meconium. The baby at that time did not seem to have respiratory distress. Because of the result of the enema, in returning inspissated meconium, another 2-ounce saline enema was given. Within a few minutes respiratory distress was evident, the respirations becoming shallow and gasping. The enema was not returned, and the infant was placed in an incubator under oxygen. It was thought, at the time, some perforation of the rectum or sigmoid colon by the enema tip might have occurred.

An x-ray was taken, and evidence of some free air was seen under the left dome of the diaphragm. The consulting surgeon was of the opinion that immediate surgery should be undertaken to close the perforation of the bowel. Further x-rays were then taken in lateral and upright postures, and more free air was evidenced in the peritoneal cavity, confirming the diagnosis of a perforated viscus. While preparing the infant for surgery she suddenly expired approximately eight and a half hours after the abdominal distention was originally observed.

Autopsy Findings

The embalmed body was that of a two-day-old infant measuring 49.5 centimeters long and weighing 3,125 grams. The abdomen was distended. There were no other external abnormalities.

The skull and central nervous system were not examined.

Heart.—The heart was normally placed, but was enlarged on the right, primarily by an enlarged right auricle. The pericardium was smooth. The sac contained no fluid. The heart chambers were opened and no abnormality other than right auricular dilatation was noted. The valves appeared competent. The foramen ovale was patent and the ductus arteriosus was open. The great vessels of the heart were normally placed and showed no abnormality.

Lungs.—Pleural spaces were smooth and free of fluid. Both lungs floated when immersed in water. Cut surfaces showed no evidence of inflammation or infection. The trachea and bronchi were unobstructed. Hilar lymph nodes appeared normal.

Abdominal Cavity.—All peritoneal surfaces were inflamed and covered by a thick, yellow-green, purulent material, and a moderate amount of foul-smelling air was present in the peritoneal cavity (Figs. 1 and 2).

No gross lesions were noted in the stomach, duodenum, jejunum, or first portion of the ileum. The distal ileum, the ascending, transverse, and upper half of the descending colon all showed a green-brown discoloration, and a moderate to marked amount of distention. The distention was particularly noted in the caecum, where an area, 2 centimeters in diameter, on the anteromedial aspect, was black and perforated in its center by a 2 millimeter defect (Figs. 3, 4, 5, 6, and 7). A considerable amount of firm, inspissated meconium was removed from the caecum.

The colon below the junction of the descending colon and the sigmoid was completely normal, and there was no evidence of perforation from the enema tip. The mucosa of the rectum and sigmoid were not damaged.

The liver was covered by a thick, green, purulent exudate. Cut surfaces showed no recognizable gross lesion. Biliary tracts were patent.

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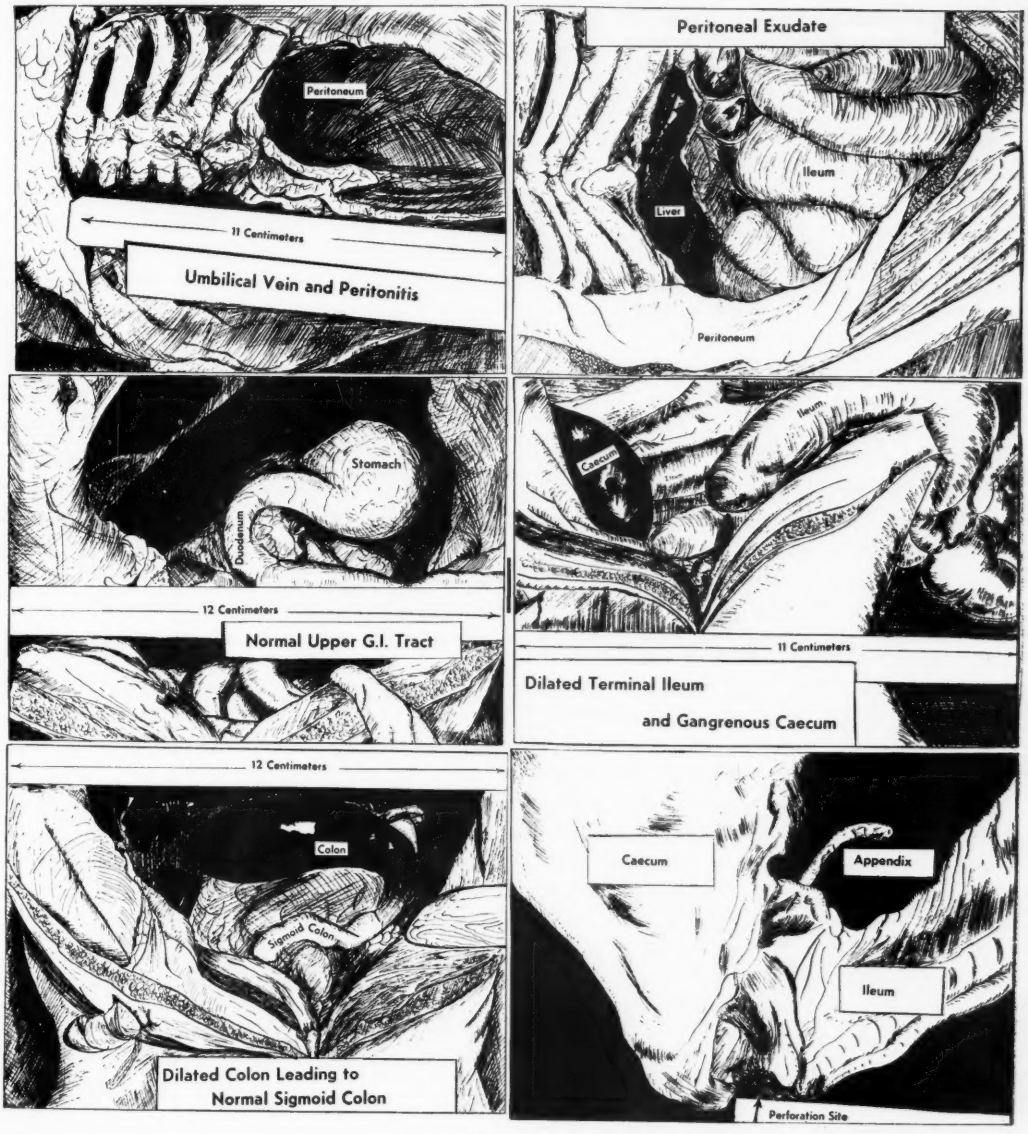

Figs. 1-6

Endocrine System.—The thymus was slightly enlarged but was not constricting the trachea or compressing the vessels of the anterior mediastinum. The thyroid was not enlarged. The adrenals were normally located and did not appear enlarged. The cut surface of both adrenals showed a thinning of the cortex, with some evidence of hemorrhage into it.

Diagnosis.—The diagnosis on the basis of gross autopsy findings was: (1) Peritonitis, severe, acute, due to (2) Perforation of the caecum—cause of caecal perforation unknown, and (3) Right heart failure.

The autopsy findings were difficult to understand,

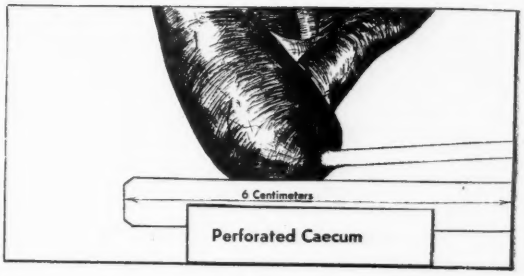

Fig. 7

as we were unable to determine any way in which the caecum could have been perforated, and until the microscopic findings were returned, we remained in the dark.

Microscopic findings showed several things of significance. The first was hemorrhage into the adrenal cortex, and, second, gangrene around the site of perforation, apparently caused by compression of the blood vessels of the caecum by some foreign body. This finding of trophic gangrene led us to the diagnosis of meconium peritonitis.

It was felt by the pathologist who did the autopsy, that there was sufficient inspissated meconium in the lower gastrointestinal tract to account for the perforation. Therefore, the final diagnosis, based on gross and microscopic pathology, was peritonitis, due to perforation of the caecum by pressure necrosis from inspissated meconium.

Discussion

In 1838, Sir James Y. Simpson first described fetal peritonitis. At the time of the original description, twenty-five cases were discussed. Since that time several authors have broached the subject of meconium peritonitis, and occasional isolated case reports and reviews have appeared in the literature.[1]

Perhaps one of the best reviews of this condition is published in the *American Journal of Roentgenology and Radium Therapy,* by Dr. Edward B. D. Neuhauser; in this review the radiographic criteria for diagnosis are summarized and examples given. His article gives three additional cases, and all three of these showed one or more congenital anomalies of the bowel, the most common being atresia. In all of his cases one or more irregular plaques of calcification, visible on roentgenogram, were found, and these proved to be meconium, which had been extruded through a perforation and then undergone calcification. However, in no case was he able to demonstrate the site of perforation, either at operation or autopsy.[5]

According to Kneidel,[4] the first description of a case of congenital intestinal obstruction was given by Calder in 1733. Various incidences of this disease have been given; Kneidel's vary from one out of 20,000 births to one out of every 1,000 births by other authors. However, Davis and Poynter[3] indicate that of the 392 cases reported in the literature as of 1922, only 25 per cent (101 cases) occurred in the ileum and caecum. The mechanism of obstruction and perforation associated with meconium ileus has been thought to be related to fibrocystic disease of the pancreas. In this situation, the peristaltic waves passing through the intestine are apparently unable to force the thickened meconium through the lumen of the gut, and obstruction results.

It was pointed out by Neuhauser and Kneidel that the majority of cases of meconium ileus associated with obstruction or perforation were usually the result of one or another congenital lesion of the intestinal tract, associated with faulty development. Pyloric stenosis; ileal and jejunal atresia; diaphragmatic hernia causing gastric obstruction; imperforate anus; duodenal stenosis and/or atresia, were the commonest types of congenital anomalies noted.

In our case, no evidence of congenital malformation of the gastro-intestinal tract was seen. In addition, we were able to demonstrate the exact location of the point of intestinal perforation. Microscopically, we were able to see evidence indicating pressure necrosis from the inspissated meconium. We were not able, however, to find the classical radiological picture of meconium peritonitis, *viz:*

1. One or more irregular plaques of calcification visible in the peritoneal cavity, either lying within the bowel lumen, wall, or parietes.
2. Markedly dilated loops of small bowel with numerous air and fluid levels.

On the other hand, our case did demonstrate the classical x-ray findings of perforation of a hollow viscus, clearly demonstrating air beneath the diaphragm and beneath the abdominal wall.

Because of the failure of the autopsy to demonstrate calcification of the meconium spilled within the peritoneal cavity, it is our conclusion that the perforation must have been quite recent in its origin.

It has been pointed out[2] that it is possible for rupture of the bowel to occur any time after the fifth month of gestation, and that meconium can be spilled any time after perforation occurs. In the fifth month, intestinal peristalsis seems to start and prior to that time the gastro-intestinal tract is silent. Had rupture occurred very long prior to the death of our infant, some evidence of calcification, or fibrotic walling-off of the foreign body, would have been evidenced at autopsy. However, we found only thick, purulent meconium covering the peritoneal surfaces of the abdominal cavity, without any evidence,

(Continued on Page 108)

Medical Partnerships

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THERE appears to be a growing interest among physicians and surgeons, both in the field of general practice and in the various specialties, in combining the tangible and intangible resources of two or more doctors for practice as a group or firm. Since the medical profession in common with other professions is generally prohibited from practicing in or through a corporate body, the partnership form of organization seems to be the only practical means of combining resources. For that reason an article touching upon the various problems inherent in a partnership organization and some of the solutions of such problems seems timely.

It is perhaps only natural that most professional and businessmen contemplating the formation of a partnership (and it nearly always involves the combining of the resources and efforts of persons who are good friends, as well as persons with common professional or business interests), think only of three or four matters to be decided at the outset. The questions which occur to them immediately are: What shall we call our firm? What will be our office or business location? How much property by way of cash and equipment will each prospective partner contribute? How will we share in the profits? Strangely enough, there is almost never any thought of losses or future misunderstandings or disputes.

The legal profession has long since learned that misfortunes, misunderstandings and disputes will arise in some partnerships. Not only that, but sooner or later every partnership is going to be terminated with accompanying problems incident to the business aspects of dissolution. For that reason, lawyers generally urge prospective partners to devote great care and thought to their partnership agreement and to reduce it to writing for future certainty.

When Doctor "Jim" and Doctor "Joe" decide that they would like to form a partnership and pool their combined equipment, knowledge, experience and other resources, they should immediately make up their minds that they are undertaking a business relationship, the details of which should be worked out in advance so far as possible. They should sit down and lay aside the sensitivity that so frequently affects discussions between close friends and discuss all the aspects with complete candor.

Their discussions should include among others, the following problems:

1. The firm name under which the partnership will operate and its office location.

2. The date when the partnership shall commence and the term for which it shall continue (usually from year to year until such time as it is terminated as provided in the agreement).

3. The original acquisition of supplies, fixtures and equipment and the repair, maintenance and replacement during the life of the partnership.

4. The definition of just what receipts from particular sources of income shall constitute partnership property.

5. The definition of partnership expenses to be paid out of funds of the partnership.

6. Whether automobiles shall be purchased by the partnership or supplied by the individual partners, and the manner of obtaining and paying for liability and property damage insurance necessary to protect the partnership as distinguished from the individual.

7. The bank in which the partnership bank account shall be established and the responsibilities of the partners with respect to that account.

8. Nature and extent of the records (including books of account) to be kept by the partnership, the place of keeping such books and the rights of each partner with respect to access to all records.

9. Whether or not the firm's books of accounts are to be supervised or checked by in-

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dependent auditors; if so, how often and whether the independent audit report shall become conclusive as to each of the partners within some definite period after it is received.

10. Manner and times of distribution of net income.

11. Times and amount of current drawings by each partner from current income for living and other personal expenses.

12. Manner of termination of the partnership and the methods of liquidation of assets upon dissolution.

13. Treatment of accounts receivable owned by the individuals at the time the partnership is formed.

14. Restrictions, if any, upon each partner as concerns his activities outside the partnership.

15. Amount of vacation time or other free time to be allowed to each partner during the existence of the partnership.

16. The fixing of responsibility, if so desired, for particular types of practice, for example, obstetrics.

17. Any restrictions which are to be placed upon any partner with respect to his practice in the event of termination of the partnership.

The possible solutions to most of the questions or problems enumerated are quite obvious, and will not be the subject of further comment here. However, several of the matters which should be covered in every good partnership agreement seem worthy of brief comment.

Quite frequently medical partnerships comprise an older doctor who owns substantial equipment and controls a substantial practice, and a young doctor whose resources in that respect are small or almost nonexistent. In that situation the supplies, fixtures and equipment with which the partnership will start operation may be furnished by the older doctor either on the basis of an appraised or an agreed value, a prescribed percentage of which the younger man is to pay to the older partner out of future earnings, or the older doctor may contribute these supplies to the partnership with no provision for reimbursement but only a provision that upon termination of the partnership any of the original supplies, fixtures and equipment still in use shall revert to him. Where the physicians or surgeons forming the partnership are on a more equal footing, it is possible that each will have substantial holdings of supplies, fixtures and equipment to contribute, in which event the value can be appraised or agreed upon and any differential adjusted by cash contribution to the partnership account, or such difference in value can be taken into account in the fixing of participation by each partner in profits and losses. In any event, the agreement should further specify the manner of procuring and paying for repairs and maintenance and replacement equipment.

Meticulous care should be exercised in working out the terms of the agreement for distribution of net income (and in the case of misfortune, the sharing of losses) so that each partner will know from time to time exactly where he stands with reference to partnership earnings. In most instances, the partners do not start on an equal footing, and it is intended that the younger partner with less experience and less to offer the partnership participate in earnings (and share in costs and losses) on a basis which starts with a relatively small proportion and increases from year to year until he arrives at a point where his participation is perhaps equal to that of any other partner. It is highly desirable that the partnership agreement set forth precisely the participation of each partner from year to year and that subsequent years not be left to future agreement. If, in years following the commencement of the partnership, it becomes obvious that the provisions respecting distribution of income as originally set forth are inequitable, the agreement can always be amended to express any new arrangement.

An audit of the partnership accounts by an outside firm of accountants may seem like a small matter, but to those of us who have had extensive experience with business and professional firms, it is perhaps one of the most important items for consideration. If the audit is done by competent people, it can serve several purposes. In the first place, the auditor will consider and report any improvements which can be made in the practices of the firm's bookkeeper to make the accounting more efficient and informative. Secondly, the audit should disclose not only inefficiency, if any, in the handling of the business practices of the partnership, but also any possible dishonesty on the part of employes—a problem which exists somewhat more frequently than most persons are aware. In the third place, the audit, if made annually, and the

report from the auditor informs each partner as to just what progress the partnership is making and avoids possible necessity for going back over a number of years to settle a dispute as to individual income received from the partnership or costs paid by the partnership and allocated to the individual partners. In the fourth place, the audit is the best possible supporting data for necessary income tax returns of the individual partners, insofar as those returns reflect income and deductions allocable to partnership operations.

It is desirable that the partnership agreement cover the question of termination (a) by notice given by a disgruntled partner a specific length of time before the end of a fiscal year, calendar year or month, (b) by entry into the military service and remaining in such service for a prescribed period of time and (c) by retirement of a partner. The death of a partner, of course, terminates a partnership as a matter of law. Equally important is a provision in the partnership agreement covering liquidation of assets upon dissolution. In the absence of some agreement all partnership assets would be subject to liquidation and the receipts therefrom would be distributed in the proportion of the partners' ownership of the assets and participation in income. Quite obviously this could result in a substantial loss and it is perfectly feasible to provide in the partnership agreement that upon termination the assets of the partnership shall be distributed in a particular manner. For instance, it may be provided that a particular partner shall take all or a specified portion of the equipment and fixtures and the office location. Likewise, it may be provided that the accounts receivable will be liquidated in a particular manner. Specific provisions may be inserted for liquidation in one fashion if the partnership is terminated by notice for military service and in another manner in the case of the death or retirement of a particular partner.

In those instances where a doctor with an established practice forms a partnership with a younger and to some extent untried man, it is particularly important to consider and agree upon any restriction upon the practice of one or another of the partners in the event of termination of the partnership. It is generally considered to be a valid provision provided that the restriction applies only to a reasonable area and extends only for a reasonable time. There would seem to be little doubt that a partnership agreement between two doctors practicing in a town of modest size might well provide that in the event of termination of the partnership, the younger man would be prohibited from practicing in that town or its immediate environs for a period of one, two or possibly three years.

In this article no attempt has been made to touch upon income tax or other tax aspects of the partnership. As a matter of fact, a partnership is not recognized as a legal entity in the same sense that a corporation is so recognized and no separate income tax is imposed upon it unless it elects to be subjected to a corporate income tax under the 1954 Revenue Code. The partnership as such makes an information return disclosing partnership income and partnership expense as well as the net distribution to the partners. The partnership operation does not, therefore, have the effect of imposing a double tax upon the income ultimately realized by the individual partners.

PSYCHIATRIC ASPECTS OF ULCERATIVE COLITIS

(Continued from Page 89)

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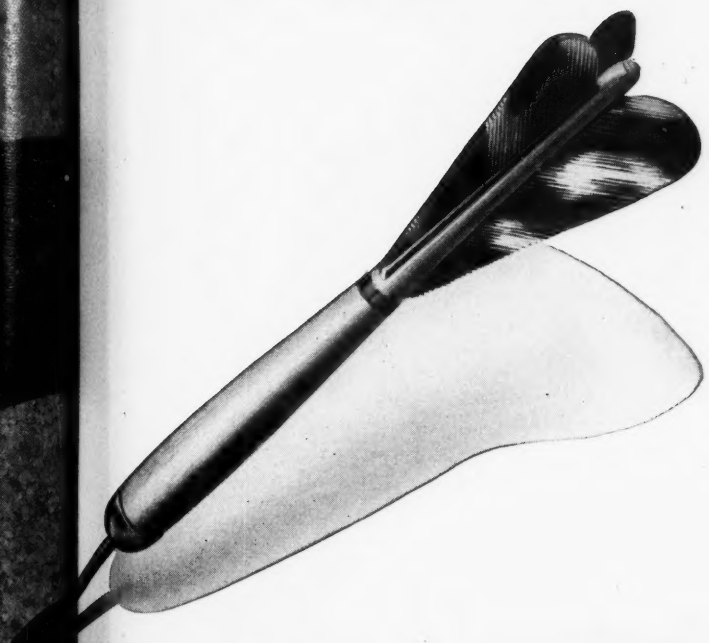

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Serological Testing for Syphilis in Minnesota

A Recommendation for a More Productive Use of Routine Testing

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MINNESOTA has experienced a marked reduction in cases of syphilis since 1946, when 1,844 cases were reported. In 1953 only 327 cases were reported. During this period there has been no appreciable reduction in the number of specimens submitted to the Minnesota Department of Health Laboratories for serological tests for syphilis. These factors led the Division of Medical Laboratories to evaluate its serological testing program to determine how serological testing can best be used as a case finding tool.

A comparative study was made of blood specimens submitted and reported cases of syphilis. To determine from whom specimens were collected, by whom submitted, and for what reasons, data were studied with reference to such factors as age, sex, marital status, whites and non-whites. Findings from the specimen study were correlated with similar data from reported cases. When appropriate, data were compared with the total Minnesota population, using 1950 census figures.[2,3]

Method

Source of the Data.—The study was based on a 4.4 per cent sample of all blood specimens tested in 1952 in the health department laboratories and on all reported cases in which the diagnostic serology was done in the department laboratories. The year 1952 was selected for study as the most recent year available.

TABLE I. COMPARISON OF ENTIRE YEAR AND 4.4 PER CENT SAMPLE

	Entire Year		4.4% Sample	
	No.	%	No.	%
Kline Test Result				
Negative	262,195	95.18	11,550	95.19
Doubtful ± or 1+	5,551	2.02	241	1.98
Positive 2+, 3+ or 4+	7,717	2.80	343	2.83
	275,463	100.00	12,134	100.00
Number of Tests				
Screen test only	254,201	92.28	11,217	92.44
Three tests	17,667	6.41	785	6.47
Five tests	3,595	1.31	132	1.09
	275,463	100.00	12,134	100.00
Overall Testing Result				
Kline or VDRL & Kolmer negative	266,968	96.92	11,762	96.93
VDRL positive & Kolmer positive 3+ or 4+	4,217	1.55	196	1.45
Other combinations of VDRL & Kolmer test results	4,278	1.53	176	1.62
	275,463	100.00	12,134	100.00

A total of 278,357 blood specimens was received in 1952. This included 2,496 (0.9 per cent) untested specimens, which were unsatisfactory due to insufficient serum or hemolysis, and 398 specimens for which the results were not reported because the patient and/or physician were not identified on the data card and could not be subsequently identified. The sample was drawn from the remaining 275,463 specimens which were tested and on which results were reported.

The sample of 12,134 (4.4 per cent) was selected by an appropriate random sampling method to provide a statistically satisfactory representation of the total group of 275,463. The close agreement between the entire year and the 4.4 per cent sample shown in nine comparisons in Table I indicates that the sample error in this study was small. The distribution of the sample in successive thousands of the numerical specimen number series was within expected theoret-

From the Minnesota Department of Health.

ical sampling limits to give further assurance that the sample error was small.

There were 479 new cases reported in 1952; 104 cases (21.7 per cent) were eliminated from the study because the diagnostic serology was done in laboratories other than those of the Minnesota Department of Health. The study included all of the remaining 375 cases. Age, sex, marital status, color, and patient residence on cases were correlated under similar data from the specimen sample.

Reported case data came from two sources, case report cards and the data card accompanying the first specimen submitted for laboratory diagnosis. Specimen data came from specimen cards.

Limitations of the Data.—Accuracy of specific data (age, marital status, diagnosis, etc.) for each individual tested and each reported case was limited by the accuracy of the information given on the cards submitted and by the fact that many cards were incomplete.

The specimens tested cannot be considered as representative of the same number of persons because of repeated testings on some individuals and there was no way to determine accurately the amount of repeat testing. For all calculations of the percentage of population tested there has been a correction introduced to allow for repeat testing. In each table, the number on which there was no information in the sample (10 to 15 per cent) is used to represent the extent of repeat testing. It is probable that 10 to 15 per cent is an overcorrection.

Results

Geographic distribution of the testing by patient residence varied from less than two per cent of the population tested in some counties to more than 13 per cent in others.* Variation in testing did not correlate with density of population nor with the number of physicians per 1,000 of population in each county.

In the seventeen counties where less than two per cent of the population was tested, 3.1 reported cases of syphilis were found in 1952 per 100,000 persons. In nine counties where more than 10 per cent of the population was tested, the case rate was 10.7. This increase from 3.1 to 10.7 in cases found with increase in percentage of population tested is not a smooth progressive increase. A correlation study was made of the two variables (per cent of population tested and case rate) using the 87 counties and three large cities. The correlation coefficient was 0.48. It indicates that increasing the percentage of population tested was not accompanied by a proportionate increase in the number of cases found.

Age distribution in five year age groups is shown in Table II. The table excludes 1,460 specimens (12.0 per cent) and three cases (0.8 per cent), because patient age was not given.

TABLE II. AGE DISTRIBUTION

10,674 Specimens in Sample—372 Reported Cases of Syphilis*

	1950 Minnesota Population %	Specimens in Sample %	Percentage of Total Population Tested %	Cases Reported %	Specimens Tested Per Case Found No.
Age 0- 4	11.1	0.9	0.6	0.8	671
5- 9	9.0	0.6	0.5	0.0	—
10-14	7.5	1.0	1.0	0.0	—
15-19	7.0	9.7	11.4	4.6	1382
20-24	7.2	16.5	18.7	8.9	1210
25-29	7.4	14.5	15.9	7.8	1212
30-34	7.1	12.5	14.3	4.0	2027
35-39	6.9	9.8	11.5	3.5	1823
40-44	6.4	7.7	9.9	6.5	779
45-49	5.9	6.3	8.7	9.9	414
50-54	5.7	5.5	7.8	11.0	324
55-59	5.3	4.3	6.6	11.8	238
60-64	4.5	4.0	7.1	9.9	249
65-69	3.5	3.0	6.9	10.8	182
70-74	2.5	1.8	5.9	5.7	209
75+	3.0	1.9	5.2	4.8	261
All Ages	100.0	100.0	8.1	100.0	651

*Age not given on 1460 specimen data cards (12.0%) and on three case report cards (0.8%).

*Counties with more than 13 per cent of the population tested were Itasca, St. Louis, and Koochiching where employe testing is routine for some industries in those areas; but since the specimens were submitted by private physicians and carried no indications to distinguish the employe examination from the usual private practice specimens, this testing was not included in the industrial group shown in Table VIII.

TABLE III. AGE, SEX, WHITE AND NON-WHITE DISTRIBUTION

10,342 Specimens in Sample—372 Cases of Syphilis*

	1950 Minnesota Population		Specimens in Sample		Percentage of Total Population Tested		Cases Reported		Specimens Tested Per Case Found	
	Male %	Female %	Male %	Female %	Male %	Female %	Male %	Female %	Male No.	Female No.
White										
Age 0-14	13.9	13.3	1.2	1.0	0.7	0.6	0.0	0.8	—	772
15-34	14.0	14.4	22.1	30.1	12.4	16.5	7.8	6.5	1788	2940
35-54	12.4	12.3	15.6	13.1	9.9	8.1	12.1	14.8	814	543
55+	9.5	9.2	8.1	6.6	6.7	6.5	27.9	12.6	182	328
White All Ages	49.8	49.2	47.0	50.7	7.4	8.1	47.8	34.7	620	924
White Both Sexes	99.0		97.7		7.8		82.5		747	
Non-White										
Age 0-14	0.17	0.16	0.08	0.08	3.7	3.8	0.0	0.0	—	—
15-34	0.16	0.15	0.59	0.77	29.5	40.9	5.4	5.6	69	85
35-54	0.12	0.10	0.28	0.30	19.2	24.3	3.0	1.0	58	170
55+	0.08	0.06	0.17	0.03	18.2	3.8	2.4	0.0	43	—
Non-White All Ages	0.53	0.47	1.12	1.18	17.2	19.8	10.8	6.7	65	109
Non-White Both Sexes	1.0		2.3		18.5		17.5		82	

*Age, color, or age and color not given on 1792 (14.8%) specimen cards. Age not given on three case report cards.

Very little blood testing was done and only three cases of syphilis (0.8 per cent) were found in persons from birth to fourteen years of age. The largest amount of blood testing (43.5 per cent) was done in the three age groups twenty to thirty-four years, inclusive. From 14.3 to 18.7 per cent of the Minnesota population was tested in these three groups but they accounted for only 20.7 per cent of syphilis found. Most of the cases reported (54.0 per cent) came from persons aged fifty or above. The number of specimens tested per case found showed a marked change at age forty. Below age forty, 1,440 specimens (weighted average) were tested per case found; above age forty, there were 320 specimens (weighted average) tested per case found; in the age group sixty-five to sixty-nine years there were 182 specimens tested per case found.

Distribution by age and sex in the white and non-white groups is shown in Table III, with age distribution shown in four large age groups, birth to fourteen years, fifteen to thirty-four, thirty-five to fifty-four, and fifty-five and older. The table excludes the 1,792 specimens (14.8 per cent) and the three cases for whom data were not available. The population in Minnesota is 99.0 per cent white,[2,3] and 97.7 per cent of the testing was on this group. Whites accounted for 82.5 per cent of syphilis found. The state population of non-whites is 1.0 per cent,[2,3] and 2.3 per cent of the testing was done on this group. Non-whites accounted for 17.5 per cent of the syphilis reported.

The yield of reported cases in non-whites was one case per 82 specimens, as compared to one case per 747 specimens in whites. In both the whites and non-whites, the heaviest testing of the population was in the fifteen to thirty-four year age groups. They were the only age groups in which there was significantly more testing of females than males, with routine pregnancy examinations accounting for this increase. Of the non-white female population age fifty-five and above, 3.8 per cent were tested, with no cases found.

Table IV shows the various types of syphilis reported by age groups in the white and non-white groups. Primary and secondary syphilis were found largely in young adults; twenty-six of the thirty-seven cases were found in the age group fifteen to twenty-nine years. The asymptomatic types, including early latent, late latent, and asymptomatic central nervous system syphilis, were found in adults of all ages but predominantly above the age of forty. Congenital syphilis was reported in all age groups, but nine of the 18 cases were found in the fifteen to twenty-nine-year-old group. In the white group, 77.7 per cent of the cases were found in persons over age forty, and in the non-white group 33.3 per cent of the cases were found over age forty. Of the total cases in whites, 7.7 per cent were infectious; 20.0 per cent of all cases in non-whites were infectious.

Table V presents the distribution with reference to marital status. It excludes a total of 1,470 specimens, including 259 children and 1,211 (10.2 per cent) adults where marital status was not known, and three cases of congenital syphilis in children aged birth to four. The sample indicates

TABLE IV. CASES OF SYPHILIS AS REPORTED BY TYPE, AGE AND COLOR

	Infectious		Asymptomatic			Late Active			Congenital No.	Total No.	White No.	Non-White No.
	Primary No.	Secondary No.	Early Latent No.	Late Latent No.	Asympt. C.N.S. No.	Other C.N.S. No.	Cardio-Vascular No.	Other Late No.				
Age 0-14									3	3	3	0
15-29	14	12	29	11	3	1			9	79	42	37
30-39	4	2	5	13	2				2	28	21	7
40-49	4		3	41	2	8	1		2	61	52	9
50-59	1		5	42	14	14	6	1	2	85	81	4
60+			2	61	5	18	23	7		116	108	8
Age Unknown				1	1	1				3	3	
All Ages	23	14	44	169	27	42	30	8	18	375	310	65
White	17	7	24	149	25	37	29	8	14	310		
Non-White	6	7	20	20	2	5	1		4	65		

TABLE V. MARITAL STATUS AND SEX

10,664 Specimens in Sample, Age 15 Years and Older
372 Reported Cases of Syphilis*
1950 Minnesota Census Figures, Age 14 Years and Older

	1950 Minnesota Population %	Specimens in Sample %	Percentage of Total Population Tested %	Cases Reported %	Specimens Tested Per Case Found No.
Male					
Single	14.8	13.7	10.1	14.2	623
Married	32.5	31.1	10.6	34.4	589
Wid. & Div.	2.8	2.0	7.8	10.5	125
All Males	50.1	46.8	10.3	59.1	515
Females					
Single	11.3	10.1	9.9	5.4	1231
Married	32.4	39.3	13.3	25.3	1010
Wid. & Div.	6.2	3.8	6.8	10.2	244
All Females	49.9	53.2	11.7	40.9	847

*1470 specimens eliminated: 259 from children and 1211 (10%) with marital status not given. Three cases eliminated: age 0-4.

that 7.8 per cent of widowed and divorced males and 6.8 per cent of widowed and divorced females were tested; 10.5 per cent and 10.2 per cent of cases were found in these males and females, respectively. A new case was found by testing 125 specimens from widowed and divorced males and 244 specimens from widowed and divorced females.

Table VI shows the reason specimens were submitted and the number of cases reported. One-half per cent of the specimens were submitted for "Following Progress of Anti-luetic Treatment." Six cases of syphilis were found in this group.*

Only 0.6 per cent of the specimens indicated "Suspected Case of Syphilis"; fifty-five cases were found in this group. This was the most productive group tested with twenty-eight specimens tested per case found. The fifty-five cases provided 59.5 per cent (22) of the total number of thirty-seven cases of infectious syphilis, with fourteen primary and eight secondary.

Routine pregnancy examinations constituted 11.9 per cent of the testing, with a total of 32,915 specimens. (The sample represents an estimated 33 per cent of all pregnancies, based on a total of 80,380 live and still births resulting from an estimated 100,000 pregnancies.) Only eleven cases of syphilis were found by routine pregnancy examinations, to give a ratio of 2,992 specimens per case found. Of these eleven cases, two were infectious, seven asymptomatic, and two congenital.

"Routine in General Physical Examination" was the reason marked on 57.4 per cent of the specimen cards. This included a large proportion of specimens from hospital patients and therefore does not indicate that all these specimens were from well persons. The groups for which there was "No Reason Marked" constituted 29.6 per cent of the specimens. These two heterogeneous

*Ideally one would not expect to find this reason on any first specimen prior to diagnosis. Possible explanations of this small bizarre group are: (1) the card was so marked by mistake, (2) the physician treated the case prior to testing, or (3) a test was done prior to diagnosis in other laboratories but was not included in the record of the case on file.

TABLE VI. REASON FOR SUBMITTING SPECIMENS

12,134 Specimens in Sample—375 Reported Cases of Syphilis

Reason	Specimens in Sample %	Type of Syphilis Reported									Total Cases Reported		Specimens Tested Per Case Found
		Infectious		Asymptomatic			Late Active			Cong. No.			
		Prim. No.	Sec. No.	E. Lat. No.	L. Lat. No.	Asym. C.N.S. No.	Other C.N.S. No.	Cardio-Vas. No.	Other Late No.		No.	%	No.
Following Antiluetic Treatment	0.5				2		1	1	1	1	6	1.6	235
Suspected Case of Syphilis	0.6	14	8	10	12	1	4	5		1	55	14.7	28
Routine in Pregnancy	11.9	1	1	4	2	1				2	11	2.9	2992
Routine in General Physical Examination	57.4	3	5	21	80	16	16	11	4	3	159	42.4	995
No Reason Marked	29.6	5		9	73	9	21	13	3	11	144	38.4	566
All Reasons	100.0	23	14	44	169	27	42	30	8	18	375	100.0	735

TABLE VII. PHYSICIANS OR INSTITUTIONS SUBMITTING SPECIMENS

12,134 Specimens in Sample—375 Reported Cases of Syphilis

	Specimens in Sample %	Type of Syphilis Reported									Total Cases Reported		Specimens Tested Per Case Found
		Infectious		Asymptomatic			Late Active			Cong. No.			
		Prim. No.	Sec. No.	E. Lat. No.	L. Lat. No.	Asym. C.N.S. No.	Other C.N.S. No.	Cardio-Vas. No.	Other Late No.		No.	%	No.
Private Physicians Offices													
Non-city	23.2	4	3	2	26	6	4	7	3	4	59	15.8	1081*
City	30.3	10	7	20	51	8	11	5	4	3	119	31.7	702
Total Private Physicians	53.5	14	10	22	77	14	15	12	7	7	178	47.5	828
Hospitals	24.7	7	3	14	61	9	24	15	1	8	142	37.9	483
Physicians Submitting Specimens from Industry or Corp.	14.7	1	1	4	15	1				1	23	6.1	1757
Colleges	3.7			2		1					3	0.8	3396
Miscellaneous**	3.4	1		2	16	2	3	3		2	29	7.7	324†
Total	100.0	23	14	44	169	27	42	30	8	18	375	100.0	735

*Includes an unidentifiable number of specimens from "employment" examinations.
**Public clinics, penal institutions, blood donor centers.
†324 specimens tested per case found can be changed to 3338 if we consider the screen testing of specimens done at the two large donor centers prior to sending selected specimens to the state laboratories.

groups accounted for 87.0 per cent of the specimens and 80.8 per cent of cases (303). All types of syphilis were found in these groups.

Table VII presents the data by the source of the specimen. Private physicians provided 53.5 per cent of the specimens tested; 47.5 per cent of all reported cases; and 64.9 per cent (24) of the thirty-seven infectious cases. Specimens tested per case found was 828.

Specimens from hospitals made up 24.7 per cent of the sample; 37.9 per cent of the reported cases; and 27.0 per cent of the infectious cases. Specimens tested per case found was 483.

Specimens submitted by physicians examining for industry or corporations made up 14.7 per cent of the testing and 6.1 per cent of the reported cases. Specimens tested per case found was 1,757.

Specimens from colleges made up 3.7 per cent of the sample and 0.8 per cent of the reported cases. Specimens tested per case found was 3,396. Two of the three cases were college employes. Specimens tested per case found among college students was about one in 10,000.

In regard to the types of syphilis, half of the eighty cases of late active syphilis were found in hospitalized patients, with twenty-four central nervous system, fifteen cardiovascular and one syphilitic cirrhosis. Syphilis cases found by testing specimens from industry, corporations, and colleges were largely of the asymptomatic types.

Because of the low case yield, the pregnancy group and specimens submitted by physicians examining for industry or corporations were further analyzed as to age, previous specimen information, and white and non-white distribution as shown in Table VIII.

In pregnancy testing, more cases were found in the fifteen to twenty-four-year-old group than in any other age group, with 1,646 specimens tested per case found. Above this age, only three cases were found, with 5,448 specimens (weighted average) tested per case found. On 30.7 per

cent no previous test had been done; eight of the eleven cases were found in this group. A previous specimen had been tested on 10.1 per cent of the total group; no cases were found in this group. On 59.2 per cent of the sample, no information was given as to a previous test and three cases were found in this group. A marked difference was noted between the white and non-white groups; 6,315 specimens were tested per case found in the white group and only ninety-five specimens per case found in the non-white.

Study of the specimens from physicians examining for industry or corporations revealed that the least productive age group was fifteen to twenty-four years, with 4,938 specimens tested per case found. Progressively fewer specimens were tested per case found in older persons; in the fifty-five to sixty-four year old group, 322 specimens were tested per case found. Only 1.7 per cent indicated that a previous specimen had been tested; no cases were found in this group. A comparison of white and non-white groups reveals that 3,269 specimens were tested per case found in the white group and seventy-eight specimens tested per case found in non-whites.

Discussion

The marked reduction in the number of reported cases of syphilis in Minnesota suggests that the situation is well enough in hand at the present time to consider the possibility of making more selective use of serological testing, with effort directed toward those groups which are most productive in terms of case yield.

Indiscriminate Routine Testing.—Routine testing of many population groups, including persons applying for marriage licenses,* food handlers, applicants for employment, and all hospital admissions has been recommended[5] but it has not been a procedure that is applicable in Minnesota where syphilis is as well under control as it is. If all of these groups were routinely tested, it would involve an estimated total of one million specimens a year, or the equivalent of one-third of the total population, with much unnecessary and expensive repeat testing of non-syphilitic persons.

Aspects of this study relating to geographic distribution of testing by patient residence indicated that increasing the percentage of population tested does not show a proportionate increase in the number of cases found. A better procedure appears to be to limit routine testing to groups in which syphilis is more often found and to emphasize the need for a high level of suspicion of syphilis on the part of the physician in selecting other persons for testing. Data presented in this study may assist in that selection.

Limited Routine Testing.—In this study, the groups in which syphilis was frequently found were: suspected cases, widowed and divorced persons, non-whites, and whites over age forty. Specimens from the above groups comprised 40 per cent of the specimen load, and 331 or 88.3 per cent of the syphilis case load.

The yield of reported cases in suspected cases was one case per twenty-eight specimens tested; for widowed and divorced persons, one case per 184 specimens; for non-whites, one case per eighty-two specimens; for persons over age forty, one case per 320 specimens.

With reference to marital status, widowed and divorced adults represent the smallest population group in the state. The extent to which specimens were submitted represents an even smaller percentage of the blood testing done. (Table V). However, these groups, both male and female, made up 20.7 per cent of cases found. It appears that this group is not being tested to the extent that other marital groups are tested, but it is yielding more than its proportionate share of cases. The fact that 5.8 per cent of the testing revealed 20 7 per cent of the cases suggests the need for greater testing in this group.

Another group in which there appears to be inadequate testing is the non-white female population aged 55 and over where only 3.8 per cent were tested (Table III). The fact that no cases were found in this age group would seem to indicate not so much that there was less syphilis in this group but that there was inadequate testing of these women.

Only 7.6 per cent (weighted average) of the population over 40 years of age is being tested at the present time, but all data indicated that age

*Premarital testing is a legal requirement in many states. At the present time, approximately one per cent of all specimens examined by the Minnesota Department of Health are to meet the premarital requirements of other states. It is estimated that the cost of processing a premarital specimen is from four to five times greater than the cost for processing the average specimen.

TABLE VIII. AGE, PREVIOUS SPECIMEN INFORMATION AND WHITE, NON-WHITE DISTRIBUTION IN PREGNANCY TESTING AND SPECIMENS FROM PHYSICIANS EXAMINING FOR INDUSTRIES AND CORPORATIONS

	Pregnancy Testing				From Industry and Corporations			
	Specimens in Sample		Cases Reported	Specimens Tested Per Case Found	Specimens in Sample		Cases Reported	Specimens Tested Per Case Found
	No.*	%	No.	No.	No.*	%	No.	No.
Age Distribution								
Age 15-24	580	44.6	8	1646	435	25.4	2	4938
25-34	578	44.5	2	6560	608	35.5	6	2300
35-44	142	10.9	1	3223	388	22.7	5	1762
45-54	0	0.0	0	—	200	11.7	5	908
55-64	0	0.0	0	—	71	4.1	5	322
65+	0	0.0	0	—	11	0.6	0	—
All Known Ages	1300	100.0	11	2683	1713	100.0	23	1691
Age Unknown	150		0	—	67		0	—
Entire Group	1450		11	2992	1780		23	1757
Previous Specimen Information								
No Previous Test	445	30.7	8	1263	749	42.1	4	4251
Previously Tested**	146	10.1	0	—	29	1.7	0	—
No Information	859	59.2	3	6500	1002	56.3	19	1197
Entire Group	1450	100.0	11	2992	1780	100.0	23	1757
Color								
White	1391	98.2	5	6315	1728	97.8	12	3269
Non-white	25	1.8	6	95	38	2.2	11	78
Color Known	1416	100.0	11	2922	1766	100.0	23	1743
Color Unknown	34		0	—	14		0	—
Entire Group	1450		11	2992	1780		23	1757

*$\frac{\text{No.} \times 22.7}{111 \text{ cases.}}$ = specimens tested per case found.

**In pregnancy group, 145 negative and one doubtful. In industrial group, 26 negative, one doubtful, two positive.

was a significant factor. The number of specimens tested per case found showed a marked change at age forty. (Table II). The same trend was found in specimens examined from industry or corporations (Table VIII), in which progressively fewer specimens were tested per case found in older persons. Only 34.5 per cent of the testing is from persons above the age of forty but 262 (70.4 per cent) of the 375 cases of syphilis were found in this group (Table IV).

Selected Testing.—Syphilis was not frequently found by routine pregnancy examinations; a total of 2,992 specimens were tested per case found (Table VI). Table VIII shows that few cases were found in the older pregnant women, no cases were found in the previously tested women, and few cases were found in the white group. Data available on routine pregnancy examination did not reveal which pregnancies were primipara and which were multipara, but it seems reasonable to presume that the majority of pregnant women being tested a second time were tested in a previous pregnancy.

With reference to reasons for submitting specimens, Table VI shows that the most productive group tested was "Suspected Case of Syphilis." This group provided 14.7 per cent of all cases and 59.5 per cent of the cases of infectious syphilis. In twenty-two of the thirty-seven primary and secondary cases, syphilis was suspected prior to the first blood test. Of the remaining fifteen infectious cases (40.5 per cent), seven would have been found by the suggested limited routine testing. Only eight would have been missed.

Any reduction in serological testing would be unwise from the point of view of the infected individual or from that of public health if primary or secondary cases were missed. With these cases, the lesions, symptoms, history of exposure, and darkfield examination carry more diagnostic weight than the blood test, which is primarily confirmatory. If a detailed history and physical examination did not reveal findings suggestive of syphilis and the suspicion of the disease was aroused only after the positive blood report was received, then we must continue to encourage widespread blood testing, even though it means testing several thousand bloods to find each case. On the other hand, if the suspicion of syphilis preceded the blood testing but was not so indicated on the card, we need not rely on routine testing to find 40.5 per cent of the cases of infectious syphilis, but on selection by the examining physician.

On only 1,521 specimens was the data card checked "suspected case" indicating syphilis was considered prior to drawing the specimen. Since syphilis is a protean disease, should it not be considered or suspected in taking a history or doing a physical especially in the ages over forty, rather than casually checking the data card "routine exam"?

The types of syphilis most dependent on serological testing for diagnosis are early latent, late latent, and asymptomatic central nervous system syphilis. During recent years, newly diagnosed cases of syphilis in Minnesota consist very largely of these types. In this study, 240 (64.0 per cent) of the 375 cases were of these asymptomatic types. Table IV shows that these types were found in adults of all ages, but most of them were aged forty and over. Only 34.5 per cent of the testing was from persons above the age of forty but 177 (73.8 per cent) of the 240 cases of asymptomatic syphilis were found in this group. Finding these cases is of great importance to the individual, since the disability of late active syphilis can often be prevented. Prevention of early death or permanent disability from cardiovascular or central nervous system syphilis has very tangible public benefit.*

In a sense, the eighty cases of late active syphilis in the total group of 375 cases may be considered public health failures since they were not found when the disease was in its infectious or asymptomatic state. In the same sense, congenital syphilis cases are also public health failures.

Although a single case of either does represent a public health failure, a low case rate for late active and congenital syphilis is a measure of the effectiveness of the syphilis control program not only for the present time, but also for the last ten or twenty years. It is encouraging to note the continued reduction in the failure rate (late active and congenital syphilis per 100,000) since 1940 when the failure rate was thirty-two. In 1947 the rate had fallen to 10.2. In 1952, the rate was only 3.5. These rates indicate that for more than a decade most cases of syphilis have been found in time to prevent late active syphilis and congenital syphilis. We can look forward to an even smaller proportion of such cases in the future if we can continue to find and treat infectious and asymptomatic cases.

Death certificates provide additional evidence of the completeness of coverage of the syphilis control program, with a trend toward more complete coverage strongly indicated. As recently as 1947, syphilis was the major or contributory cause of death on 135 death certificates, but of this group, only forty-four cases were unknown previous to the time of death, as checked against the Minnesota record of reported cases. In 1953, with eighty-four deaths in which syphilis was indicated as the major or contributory factor, only sixteen cases were unknown prior to death.

One of the reasons for the success of the syphilis control program in Minnesota is the excellent co-operation of physicians in private practice over a period of many years. The State Board of Health has always taken the position that a realistic approach to the control of all communicable disease, including syphilis, is to keep diagnosis and treatment in the hands of private physicians to the extent possible. With reference to syphilis, this has been the active policy of Dr. H. G. Irvine, administrator of the program since it was initiated in 1918. Data in this study reveals the effectiveness of this policy. Table 7 indicates that private physicians provided 53.5 per cent of the specimens tested; 47.5 per cent of all reported cases; and 64.9 per cent of the infectious cases. Hospitals made up 24.7 per cent of the sample; 37.9 per cent of the reported cases; and 27 per cent of the infectious cases. In combination, these two sources provided 78.2 per cent of specimens tested; 85.4 per cent of all reported cases; and 91.9 per cent of all infectious cases. Because many cases found in hospital patients and industrial examinations are later diagnosed and treated by private physicians, more than 70 per cent of actual case reports were from physicians in private practice.† The excellent record of most private physicians in case

*This is particularly true of general paresis which if not prevented may cost the public as high as $11,000 for the institutional care of an average case. From January 1, 1951, to May 1, 1954, 74 people died in state mental hospitals with syphilis as a cause or contributory cause of death. These people spent an average of 10.3 years in the state hospitals. The annual cost of care for one year in these institutions is $1,051 (weighted average for eight hospitals).[1]

†Minnesota physicians may be interested in knowing that this is not the usual ratio. For the fiscal year of 1953, case reports of syphilis from private physicians in the United States exceeded 70 per cent of the total case reports in only nine states; these nine states included Minnesota and only two other states with populations exceeding two million.[4]

finding carries over into follow-up on source and contacts, and physician co-operation in this phase of the work continues to be invaluable to this department in its epidemiological work.

Conclusions

Selection of persons to be serologically tested for syphilis can be improved. Most of the blood testing in this study was in the age groups twenty to thirty-four, with these groups accounting for 43.5 per cent of the blood testing but only 20.7 per cent of the cases. Most of the cases were found in the age groups forty and over, and in this study these persons accounted for 70.4 per cent of the cases. Testing in those groups in which syphilis was more frequently found (suspected cases, widowed and divorced, non-whites, and whites over age forty) accounted for 40 per cent of the specimen load and 88.3 per cent of the case load. It would seem that there is need to test a greater percentage of the population in those groups where more cases are found.

Recommendations

1. Indiscriminate routine testing should be discouraged, but routine testing of selected groups is strongly recommended.

2. It is urged that routine testing be increased in those groups in which syphilis was more frequently found (suspected cases, widowed and divorced persons, non-whites, and persons over age forty). It is recognized that repeat testing following a negative in the older age groups will usually be a relatively non-productive procedure.

3. Because of the complexities of syphilis in pregnancy it is advisable to continue to recommend routine prenatal testing in spite of the low case yield. The limited data indicated that pregnant women having had a previously negative test were still negative. A more comprehensive study of this group may give criteria to guide selective testing of pregnant women.

4. The physician should suspect syphilis at the slightest provocation. When clinically demonstrable syphilis is seen less frequently a higher level of awareness is required if early cases are not to be overlooked.

5. Continuing studies of this kind will aid all persons with a concern for the effective control of syphilis in focusing their efforts on those segments of the population in which more cases are found. Future studies can be improved by:

(a) A redesigned data card which will give more accurate and complete information.

(b) Co-operation of physicians in supplying all information requested on specimen and case report cards.

Acknowledgment

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SPECIALIZATION?

"When a workman is unceasingly and exclusively engaged in the fabrication of one thing, he ultimately does his work with singular dexterity; but at the same time he loses the general faculty of applying his mind to the direction of the work. He every day becomes more adroit and less industrious; so that it may be said of him that in proportion as the workman improves, the man is degraded.

What can be expected of a man who has spent twenty years of his life making heads for pins? And to what can that mighty human intelligence which has so often stirred the world be applied in him except it be to investigate the best method of making pins' heads? When a workman has spent a considerable portion of his existence in this manner, his thoughts are forever set upon the object of his daily toil; . . . he no longer belongs to himself, but to the calling he has chosen . . ."—de Tocqueville's *Democracy in America.*

Suffocation, A Killer of Children

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THIS article is one of a series on accidents and accidental deaths in children. The purpose is to inform the readers of MINNESOTA MEDICNE of the nature and magnitude of accidents in children and to encourage the development of "accident prophylactic-minded" doctors. I have been asked to discuss under the heading of suffocation the particular problems of crib deaths, hangings and ice-box deaths.

The wide publicity given to deaths of children in iceboxes has had a good effect. In many communities, laws have been made to prevent the abandonment of iceboxes in places where children can get at them. Clubs and groups have volunteered to dispose of old iceboxes. The doctor is in a good position to see that his community is free of the icebox menace. Minnesota has been free of icebox deaths so far. Similar type accidents, with suffocation occurring in cedar chests or closets, have happened in Minnesota.

Hanging deaths in children seem to fall into categories of bizarre accidents or suicides. The accidents are sometimes too realistic re-enactments of cowboy stories and the like. Children should be taught that ropes, like fire, can be dangerous. Suicide is occasionally a spur of the moment act of a hurt or angry child; more often there will be other evidences of psychiatric disturbance. Do not ignore the threats of a child who talks of suicide! He may fool you, and himself.

In 1952, twenty-seven infant deaths in Minnesota were attributed to suffocation in the crib. In only three instances were autopsies done. Evidence obtainable from other states where autopsies are done routinely would indicate that most of Minnesota's twenty-seven deaths were not due to suffocation. Werne and Garrow[3] from the office of the Chief Medical Examiner of the City of New York, reported on a series of 299 sudden deaths in infants under one year of age over a period of twenty years in one borough of the City of New York. These authors, probably more than anybody else, helped to clarify the causes of death in such instances. For many years, most of such deaths were believed to be caused by suffocation, aspiration, or an enlarged thymus. Nobody in authority any longer supports the concept of "status thymolymphaticus" or thymic deaths. Aspiration too has lost repute as a cause of death. It has been shown to be a common finding in instances of death due to other causes.[4] Suffocation undoubtedly occurs, but the evidence says that most crib deaths are due to infection. Gruenwald and Jacobi[2] found mononuclear pneumonia very commonly in infants who died suddenly after being in apparent good health or who were ill for only a short time. Werne and Garrow[5] had autopsy examinations in three different categories of infant deaths. The first group was thirty-one infants who died suddenly while in apparent good health. The second group was twenty-six infants who were actually observed while they died suddenly while in apparent good health; and the third group was twenty-six infants who died violent deaths. Many of the first group of thirty-one infants were thought to have died from suffocation. Careful microscopic examination of the tissues showed that all the infants had respiratory disease. In twenty-six infants dying violent deaths, evidence of respiratory infection was spotty and mild. In the group of infants who were observed while dying, ten had heart disease or gross bronchopneumonia and the remaining sixteen infants all showed microscopic respiratory infection. The significant points in these studies were:

1. Most sudden deaths in infancy and especially below the age of six months are due to infections.
2. True suffocation deaths are rare.
3. Aspiration is a common agonal event but seldom is the cause of death.
4. Mononuclear cells may be present in the

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alveolar bronchiols in several different conditions and are not diagnostic of pneumonia.

Streptococci, staphlococci, meningococci and E. Coli septicemia have all been shown to cause sudden death in infants.[1]

I am confident that most doctors who care for babies have seen instances where suffocation did seem to be the cause of death. The baby is found face down in a soft pillow, or bed clothing is wound about the head, or the head is caught between the rungs of the crib with the face against the mattress, or the baby has slid between the rungs or between the crib and the mattress and the baby has strangled. Some of these deaths can be prevented. The doctor must preach safety in the crib as part of his post-natal instructions to the mother. The mattress must be firm, it must fit the crib well with no spaces on the ends or sides; pillows must not be used. The crib sides should be solid or the rungs spaced closely.

The doctor must also be alert to minor symptoms in the small infant as warnings of possible serious disease. The immune mechanisms of the small infant are poor. Chemotherapy or antibiotic therapy may be prescribed without all the criteria that the conscientious doctor may demand in an older patient.

If death does occur in the crib, then the doctor must try to find the true cause of death. To learn that infection rather than suffocation caused their baby's death may spare the parents profound feelings of guilt. Autopsies should be done on all infant crib deaths.*

Doctors need to be accident-conscious. Accidents kill many more children than diphtheria, tetanus, pertussis and smallpox. The doctor does not consider his work done unless his child patients are immunized against these diseases. He should not consider his care adequate until he has inoculated the germ of accident prevention into both child and parents. This can be done at his office, as part of the first-year, well-baby instructions. Brochures and check-lists to supply to the parent can be obtained from the Minnesota State Department of Health, Section of Maternal and Child Health, University Campus, Minneapolis, Minnesota.

*If the services of a local pathologist are not readily available, the doctor may remove tissue specimens and send them to the Pathology Department, University of Minnesota Medical School, where tissue preparations and interpretations of the pathological findings will be made without charge.

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MECONIUM PERITONITIS

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either gross, microscopic, or radiographic, of organization or calcification.

We came to the conclusion that Kneidel's recommendations, as to the value of a scout film of the abdomen, should be taken whenever a newborn infant shows persistent vomiting, abdominal distention, or fails to gain weight in a normal fashion.

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Teratoma of the Recto-Sigmoid

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TERATOMAS are embryonic tumors which are characterized by the fact that they contain tissues from one or all of the three germ layers; therefore they contain skin, hair, bone, cartilage, muscle, teeth, nerve tissue, fat, intestinal mucosa and other organs. There is no order in the arrangement of tissues, as they are a veritable pot-pourri of fetal tissues. The tissues may be adult or embryonal type. The former are prone to give rise to benign tumors, and the embryonal elements are more apt to give rise to malignant tumors. The nature of these tumors can be understood best in the light of their mode of formation. They are apparently due to the partial separation of a part of the ovum in the blastomere stage. The younger the ovum is, the more nearly totipotent its cells are, and the more capable of producing more than one tissue. In the blastomere stage a small part of the dividing ovum is partly separated and continues to live as a mass of cells, attached to the host and causing no disturbance until for some unknown reason this embryonic tissue is stimulated to independent growth. They are therefore faulty efforts at twin formations.

Depending upon the age of the blastomere and multipotency of its cells, teratomas of any simplicity or complexity may be formed. In dermoid cysts, the tissue is more adult and more specialized than in other teratomas; organs are better formed and more adult in type. In other teratomas, the tissue is often completely unorganized, may be a solid mass, and organs are more rudimentary and embryonic. Teratomas may be found anywhere in the body but have a predilection for certain locations, especially the ovary. Teratomas of the posterior rectal wall space were described by Middeldorf as early as 1885 and still frequently are referred to as Middeldorf tumors. Many cases have been reported of numerous variations of this tumor in the medical literature, but nowhere in the American recordings have I been able to find a case of teratoma arising from the mucous membrane of the pelvic colon. One case of dermoid arising from rectal wall was found recorded in the *British Journal of Surgery* by R. Nigam in 1947, in which the author stated that the mass protruded from the anus and was 4 by 2 inches in size. It was attached to the anterior rectal wall by two pedicles one-half inch thick and about 5 inches from the anal margin. There was no obvious connection between the mass and any of the pelvic viscera other than the rectal wall.

Another case was reported in Bland-Sutton's monograph on tumors in 1922 of London, England. They found a pedunculated teratoma hanging from the mucous surface of the sigmoid flexure which led to intussusception in a girl of sixteen years of age.

Dermoids in the wall of the rectum are rarely met with and the majority of cases reported so far have been of the nature of dermoid cysts. The following case is of interest because the tumor was a solid mass containing bony rudiments and glands covered with hairy skin, and microscopically a true teratoma.

Case Report

Mrs. L. P., aged twenty-seven, a white woman, presented herself on January 9, 1953 with the following history:

Since the age of approximately fourteen years this patient had noted a mass presenting at the anus whenever she had a bowel movement. As time went on, this mass became gradually larger and larger producing symptoms of pressure in the rectum; and finally, in recent months, produced so much obstruction that it was necessary for her to push this mass back into the rectum each time before she could evacuate her bowel. She had consulted a physician several years ago after passing blood for the first and only time, and after examination he reassured her there were only a few external hemorrhoids present which did not necessitate any treatment.

The family history was essentially negative. The past

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history of illness included measles, mumps, and chicken pox. She had had a tonsillectomy at age fourteen. The menstrual onset was at age 11 years, and was regular and normal. Dysmenorrhea was present during the first day. She had been married for eight years and has not been able to conceive to date, even though examination of the husband's sperm was normal.

Fig. 1.

On examination this patient was a well-developed female 63 inches tall, weighing 146 pounds. The hemoglobin was 11.8 gms. white blood count 7,000, Wassermann negative, and urinalysis negative. General physical examination was essentially normal. The genital pelvic organs were normal except for a large firm mass which was palpable in the rectum through the posterior vaginal floor and on digital rectal examination. On the latter examination, the pedicle attached to the right lateral rectal wall was palpable; the mass seemed to be about the size of a large hen's egg, and there was a sharp calcified structure palpable in one area of this mass. On proctoscopic examination this mass was partially visualized and the pedicle attachment was readily recognized. The passage of a sigmoidoscope was attempted past the mass without success. A flat plate of the abdomen unfortunately was not taken, nor a barium enema study made.

On January 16, 1953 after the bowel had been sterilized for twenty-four hours previously with neomycin, this tumor mass was removed under Pentothal anesthesia. The pedicle arose from the right lateral rectal wall and was about one-half inch in diameter and very short, so that it was almost flat against the bowel wall. The mucosa of the bowel did not extend onto the stem but surrounded it in a manner much like fine sand would surround a mushroom stem. It was difficult to extrude the mass and only after considerable traction was the entire mass presented. The pedicle was clamped flush with the mucosal surface and ligated with chromic catgut, and allowed to retract back into the pelvis.

The specimen removed consisted of an irregular shaped mass of tissue measuring approximately 9 x 5 x 4.5 cm. in size. It was covered externally by skin from which a number of long fine hairs were growing. At one end there was a protuberant mass from which protruded two molar teeth. Opposite this was a small verrucous area measuring 1 cm. in diameter. On cut section the central portion appeared to be composed primarily of fat and connective tissue. Microscopic examination of sections established this as a true teratoma. The outer surface was covered by tissue having all of the characteristics of skin with hair follicles and sebaceous glands present. A cyst found in the deeper tissue was lined by a pseudostratified columnar ciliated epithelium and small islands of cartilage laid adjacent to this similar to what one would see in large bronchi. The intervening tissue showed fat, callogenous connective tissue and apocrine glands of various types. No evidence of malignancy was found in any of the sections.

Five days after the surgical procedure a sigmoidoscope was passed up to 20 cm. and no sign of the pedicle area was found. A month after surgery a sigmoidoscope was passed 22 cm. and no evidence of scar of previously removed tumor was found.

A barium enema was given six months after surgery, and no evidence of former tumor site or any other abnormality was found. Postoperative course was uneventful and the patient has been well and symptom free since.

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DIAGNOSTIC ENIGMAS OF DISEASES OF BONE

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Duluth, Minnesota

In most fields of oncology, all eyes turn to the pathologist for the last word—*his histologic diagnosis.* For the recognition of diseases of bone the clinical and roentgenologic consultants are frequently of equal or greater importance. Though there are many clear-cut blacks and whites in the diagnosis of osseous lesions, there exist, on the other hand, unusually large grey areas of frustration. Examples of mutilation resulting from "overdiagnosing" and the fatalities from "underdiagnosing" bony diseases are legend in the annals of pathology. There is probably no group of diseases in the body where the pathologist's ignorance has done relatively more harm. Paucity of experience and rather recent organization of knowledge in the field are partly to blame. It behooves the responsible clinician to know some of the more important weaknesses in the histologic diagnosis of diseases of bone so that he may not be so easily led astray by his most trusted microscopist.

The day is long past when the cellularity of the benign giant cell tumor will lead to an unnecessary amputation. Furthermore, pathologists have learned that the presence of multinucleated giant cells does not establish the diagnosis of giant cell tumor any more than fever is a disease. The combination of fibrous connective tissue and giant cells occurs abundantly not only in giant cell tumor but also in fibrous cortical defects, unicameral bone cysts, osteitis fibrosa cystica, benign chondroblastoma, polyostotic fibrous dysplasia, monostotic fibrous dysplasia, renal osteitis fibrosa, xanthomas and other diseases. The most important errors of diagnosis in this group of diseases of bone include: (1) failing to locate small sites of malignancy in an otherwise benign giant cell tumor; (2) completely ruling out osteitis fibrosa cystica (hyperparathyroidism) without serum calcium, phosphorus and phosphatase analyses; (3) making a prognosis as to the possible future recurrence and malignant changes from a histologically benign giant cell tumor; (4) not recognizing the potentially dangerous benign giant cell tumor because of much hemorrhage and degenerative changes in the lesion and (5) misjudging in either direction a giant cell tumor of bone with histology in the borderline of malignancy.

Many limbs have been unnecessarily amputated because of the presence of benign, cellular, growing osteoid tissue. A list of the various benign conditions misdiagnosed as osteosarcoma certainly would include, among others: myositis ossificans, osteoid osteoma, exuberant callus of fractured or otherwise traumatized bone, ossifying displaced periosteum, Caffey's disease, Garré's osteitis, syphilitic osteitis, polyostotic fibrous dysplasia, monostotic fibrous dysplasia, ossifying bursitis and Charcot's joint. One fourth of the written diagnoses of pathologists at the 1953 annual tissue seminar of the American Society of Clinical Pathologists listed the slide of myositis ossificans as osteosarcoma. On the other hand, the pathologist may mistake osteosarcoma for any one of these benign lesions listed above. As in other neoplasms, borderlines between benignancy and malignancy in a small percentage of osteoblastic lesions are impossible to determine. This is especially true in the parosteal bone tumors.

An unusually difficult histologic diagnostic problem exists in the potentially dangerous enchondromas of long bones. It is entirely possible today that competent pathologists have a tendency to "overdiagnose" these enchondromas, while the inexperienced may fail completely to appreciate the importance of the subtle changes of edematous degeneration of the matrix, multiple cells per lacuna, and plumpness of nuclei found in the low-

From the Department of Pathology, St. Luke's Hospital, Duluth, Minnesota.

This is the twenty-fourth in a series of editorial reports sponsored by the Minnesota Society of Clinical Pathologists and designed to foster closer relationships between clinicians and pathologists.

grade malignancies of cartilage. This paradox is emphasized by the necessity for immediate radical surgery of chondrosarcoma, no matter what its histologic grade of malignancy. Most pathologists must depend on utilizing the experience of others for the proper evaluation of many of these rare diseases of the skeleton. The fact that only isolated focal areas of malignancy may be present does not help solve this diagnostic problem.

Neoplasms arising from cartilage cells in other bones for the same reasons may be difficult to classify. In a series of forty patients treated in a large Minnesota medical center for what was originally considered histologically benign chondromata, nine died of their malignancy and eight had recurrences. The destructive and cellular benign chondroblastoma may lead both the roentgenologist and the pathologist to advise radical surgery. At the seminar cited above, one third of the pathologists voting listed this nonmetastasizing lesion as malignant. There may be an abundance of immature cartilage in the callus at the site of a march fracture. The cartilage in an enchondroma of the phalanx may have startlingly large nuclei and be unusually cellular with evidence of bone destruction and yet be benign. These and other difficulties may becloud the histologic interpretation of neoplasms of cartilage.

There is a long series of miscellaneous booby traps set in the path of the histologic recognition of lesions of the skeleton. Some of the more important of these include: (1) mistaking a cellular fibrocytic reaction at the site of an osteomyelitis for fibrosarcoma; (2) being deceived by the large closely compact cells of a bone-destroying benign xanthoma; (3) advising an unnecessary radical or disfiguring operation for the nonneoplastic disease, polyostotic fibrous dysplasia; (4) considering the frequently destructive and large aneurysmal bone cyst malignant and (5) failing to recognize the secondary nature of a bony lesion metastatic from occult primary malignancy. A patient with a cavernous hemangioma of the tibia refused to have his leg amputated for "cancer" in one hospital. In a second institution, the condition was diagnosed by biopsy and x-ray examination as Paget's disease. Here the man may well have lost his leg as the result of therapeutic procrastination. In a third hospital, a diagnosis of cavernous hemangioma was made and he was given radiation therapy for the benign but progressing vascular disease. After ten years, he appears to have recovered.

Conclusion

Four basic rules should be listed so that the responsible clinician will get the most out of his pathologist consultant for the patient with a bone disease:

1. Do not overestimate the value of the histologic diagnosis.
2. If there is any question of diagnosis, the pathologist will welcome "outside" consultations. The best and the most experienced minds of pathologists in the country are available without charge.
3. Present the pathologist with all of the clinical and roentgenologic evidence; he may be lost without it.
4. The clinician should know the principal areas of uncertainty in this difficult field of microscopic pathology.

The pathologist is responsible for his own diagnosis. He should not make many serious mistakes before he recognizes most of his personal limitations and the range of accuracy of the methods of his specialty on his battle line of practical experience.

MODERN MEDICINE AND MORBIDITY

The data which witness modern medicine's triumphs, the statistics that reflect the declining death rates and the increase in life expectancy (at birth), when critically examined add up to the summation that modern medicine has in a large measure converted mortality into morbidity. Those whose lives it has helped to save in many instances face not an extension of existence in well-being and in health, but merely a prolongation of endurance. Those who by the skills of modern medical science have been saved from death all too often have been saved only to longer endure the burdens of a variety of illnesses, and to die at a later age. In the statistical tabulations such individuals appear to have gained years of welcome life, but these may be, and too often prove to be, years of painful travail, years of dependency, unproductive years which in the last analysis are social and individual liabilities rather than assets.—IAGO GALDSTON, M.D., "The Meaning of Social Medicine," Harvard University Press, 1954.

Clinical-Pathological Conference

CASE PRESENTATION

ARTHUR C. AUFDERHEIDE, M.D.

Clinical History

The patient, a sixty-seven-year-old white man, retired woodcutter, was first admitted to St. Mary's Hospital May 7, 1954. Complaints were nocturia, difficulty starting stream and gross hematuria for one and one half months. Hematuria had been severe. He had lost weight from 250 pounds to 180 pounds in the preceding two years, ascribed to voluntary dieting resulting from accompanying dyspnea during that time. Anorexia had been present for the past several months but no abdominal pain. Past history, family history and system review was negative. Physical examination showed a few small hemorrhages in the oral mucous membrane; otherwise the eyes, ears, nose and throat were not abnormal. Several bean-sized hard nodules were palpable in the supraclavicular areas in each side. Except for occasional premature contractions the heart was not abnormal. The liver was palpable 4 cm. below the rib margin in the right midclavicular line, but was not tender. The extremities and reflexes were not abnormal. Rectal examination showed an enlarged, hard, nodular prostate gland. An attempt was made to pass a catheter but failed.

On the day following admission 2500 cc. of blood were given the patient. The same day a suprapubic catheter was put in place; bloody urine was draining freely when the patient left the operating room. A radiograph including the kidneys, ureters and the bladder showed arthritis, but no evidence of metastatic malignancy. On May 10, another 2500 cc. of blood were given, but the pubic drain clogged and a urethral catheter was passed successfully which drained more bloody urine. On May 11, 6300 cc. of blood were given and a bone marrow aspiration performed. Serious bleeding occurred for at least twenty-four hours from the sternal puncture wound. The bone marrow was reported as showing erythroid and myeloid hyperplasia in the bone marrow and thrombocytopenia in the peripheral blood. Megakaryocytes were numerous and not abnormal morphologically. Histologic sections of marrow particles showed metastatic carcinoma (Fig. 1). In the afternoon, on May 11, the patient again passed into severe shock. Noradrenalin, digitalis, and intravenous aminophyllin were given. The skin appeared jaundiced. ACTH was started.

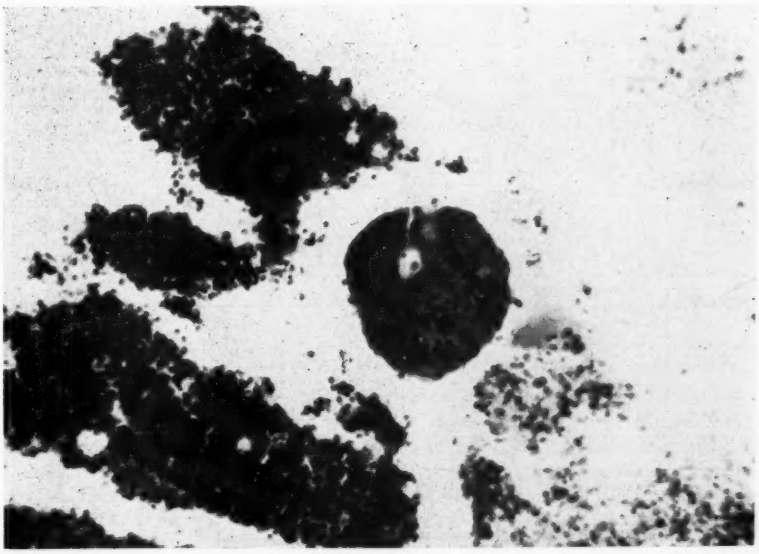

Fig. 1. Histologic section of bone marrow particles (from the bone marrow aspiration specimen performed antemortem) showing metastatic carcinoma. Hematoxylin and eosin, ×425.

Laboratory findings are shown in Table I.

Additional history at this time revealed a past history of chronic alcoholism for many years. The patient continued to bleed severely until about June 2, when bleeding lessened markedly. By June 10, only a tinge of

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From the files of the Department of Pathology, St. Mary's Hospital, Duluth, Minnesota.

Edited by Donald Gleason, M.D., under the auspices of the Minnesota Society of Clinical Pathologists.

blood was seen in the suprapubic discharge. On that date, auricular fibrillation at a rate of about 100/min. was noted. The patient suffered dyspnea and had demonstrable leg edema. Râles were heard in the lower chest posteriorly. Clinically, he was much better and much more alert. On June 11, rectal examination revealed the prostate to be somewhat smaller, probably as a result of the stilbestrol therapy which had been administered since admission, but it was felt that the decrease in size was mild. The patient expired on June 14 at 4 a.m. Earlier that evening, even though he had been improving, he awoke at 11:20 p.m., very confused and soiled himself with a large loose stool. He complained of pain in the throat and chest pain. He was very restless and passed several more loose stools. He became irrational, and respirations were rapid and labored. He obtained slight relief from opiates and expired quietly.

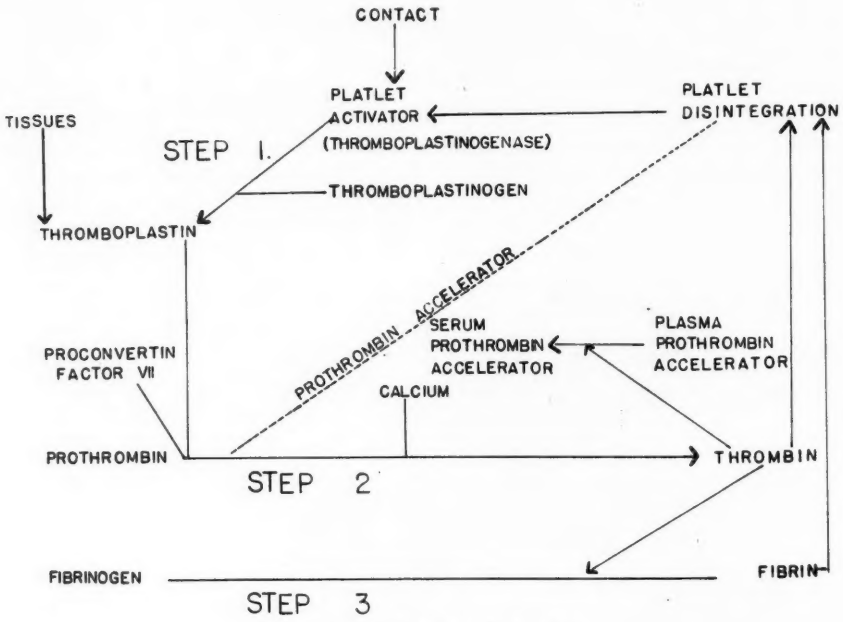

Chart 1. (Adapted after Stefanini[5])

Discussion

Dr. Robert Goldish (Duluth): It is worthwhile to consider briefly blood coagulation in general and how it relates to the present case. Pertinent methods of "screening" hemorrhagic disorders include a careful history and physical examination, detailed study of the family history, bleeding and clotting time, clot retraction, platelet count, prothrombin time, and capillary fragility test. Caution and perspective must be exercised in interpreting these laboratory tests. The laboratory technique must be standardized and the tests performed with care and controls, since seemingly minor variations in technique can cause grossly misleading variations in results. For instance, just to mention one or two variations which may be quite common, a falsely prolonged bleeding time may result from too deep a puncture, and—in some laboratories, at least—the coagulation time done by the Lee-White method may normally run as high as twenty minutes.

Quick's prothrombin consumption test is actually a measure of available thromboplastin, comparing the prothrombin time of plasma and of serum to determine how much prothrombin was consumed in clotting. Normally, about 80 per cent or more of the originally available prothrombin will be consumed in clotting, while in hemophilia or thrombocytopenic purpura (where thromboplastin production is decreased) as much as 90 per cent may *remain* in the serum after clotting. Many other more specialized tests may be used, and at times it becomes necessary to study blood samples from the patient's relatives.

In 1905, Morawitz established the classical theory of blood coagulation which recent concepts have not contradicted but merely expanded. Morawitz postulated that prothrombin was converted to thrombin through interaction with calcium and thromboplastin; thrombin then caused fibrinogen to form fibrin. Much of the current confusion is probably due to the fact that different investigators independently discovered similar or identical phenomena simultaneously, resulting in a turmoil of nomenclature. Nevertheless, most investigators[5] agree on the following four points: (1) thromboplastin activation is a separate, preliminary phase in thrombin formation *in vivo;* (2) factors in addition to thromboplastin and calcium are involved in the conversion of prothrombin to thrombin; (3) serum contains one or more agents accelerating prothrombin to thrombin

TABLE I.

DATE	PROTHR. TIME	BLEEDING and CLOTTING TIME	HGB	PLATELETS	BLOOD TRANSF'S.	OTHER LABORATORY DATA	TREATMENT
5-7			6.2			BUN 26, Creatinine 2 mgm % Urine 1.022, 4+ Alb, 4+ RBC	Stilbesterol, Vit K Cont'd to death
5-8			6.0-8.3		2500 cc.	Acid Phosphatase 1.8 KAU. Alk. Phosphatase 4.0 KAU.	Penicillin begun and continued thru 5-31
5-9			7.8				
5-10	0 %	B.T. - 7'36" C.T. - 5' 0"	8.6	18,000	2500 cc.		Digitalised Levophed
5-11			11.4-9.3	13,200	6000 cc.	Bilirubin 3.7 mgm% direct 3.4 mgm% indirect	ACTH Levophed
5-12	0 %	C.T. - 5' 5"	9.5-7.5			Fibrinogen - 0.266 Gm%	ACTH 40 mgm q.d.
5-13	46%*	C.T. -14'50"	7.5			*P.T.: No clot P.T.: +thrombin - no clot P.T.: +normal plasma - clot	
5-14	65%*		5.8		1000 cc.	Coombs - negative (direct) Cephalin flocculation - 3+	
5-15			9.5		1000 cc.	Thymol turbidity - 0.6 units BUN - 78 Protein - 5.5 gm% total 3.7 albumin 1.8 globulin	
5-16	41%*	C.T. -20'	7.6	52,800		RBC fragility - normal Protamine Titration - 0.4 mg. protamine in 1 hr. (normal)	
5-19	0 %		7.8			Bilirubin 1.2 mg.% Direct 1.2 mg.% Indirect Fibrinolysin - Positive**	
5-20						Feces Urobilinogen - 350 Ehrlich units/100 gm	
5-21			6.9		500 cc.		
5-22						CO_2 - 24 meq/L; BUN 38	
5-23			8.4			Serum Potassium - 3.7 meq/L	
5-25						Feces urobilinogen - 260 Ehrlich units/100 gm	
5-26		B.T. - 1' C.T. - 8'23"	8.4	64,500		Reticulocytes 1.8%	
5-27	39%					Bilirubin 0.6 mg.% Direct 1.1 mg.% Indirect	
5-28						Fibrinolysin - 90% of clot disappears in 1 hr.	
5-29						Cephalin flocculation - 1+	
5-30			8.4		500 cc.		
5-31					500 cc.		
6-4			8.9				ACTH - 30mg. qd Thiomerin 2 cc. qd
6-8	80%	B.T. - 1'	8.0	84,700		Bromsulfalein - 16% retention Fibrinolysin - 50% clot Dissolution in 1 hour	ACTH - 10 mg. qd
6-11							TACE - 12 mg. qid

* One stage prothrombin method of Quick. Endpoint recorded on May 13, 14, and 16 was appearance of a few fine greyish strands which disappeared in a few seconds. They might better be recorded as 0%. Addition of thrombin produced no better clot, but addition of one drop of normal serum produced a clot in 12 seconds.

** Test performed by placing freshly clotted patient's blood in 37° incubator for 1 hour; disappearance of clot reported as positive test.

conversion; (4) the formation of thrombin proceeds as an autocatalytic, progressively accelerating process.

The first phase of blood coagulation concerns the production of thromboplastin (Chart 1). This substance may be formed either by release of formed thromboplastin from injured tissues or by interaction of plasma constituents with products contributed by lysed platelets. Platelet lysis occurs upon contact with certain surfaces such as disrupted tissue, air or glass. The material released from lysed platelets (platelet activator; thromboplastinogenase) reacts with a substance normally present in serum (thromboplastinogen: antihemophilic globulin; AHG) to form thromboplastin. Thus, platelet deficiency would result in decreased thromboplastin formation. It has been noted recently[6] that AHG is not the only substance necessary to combine with material from lysed platelets to form thromboplastin; at least one other substance (plasma thromboplastin component; PTC)[4] and perhaps two (plasma thromboplastin antecedent; PTA) have been identified.

Phase 2 of blood coagulation is concerned with conversion of prothrombin to thrombin. Thromboplastin and calcium will combine, perhaps along with other factors, with prothrombin to produce a small amount of thrombin, insufficient to activate fibrinogen. An accelerating factor present in the plasma as an inert substance (plasma AC-globulin, proaccelerin, factor V) rapidly becomes active as a serum prothrombin accelerator in the presence of thrombin.[3] Thus, the initially formed small amounts of thrombin activate the accelerator substance which, in turn, "speeds up" the conversion of prothrombin to more thrombin eventually to produce enough of the latter for fibrinogen activation. A second, less well-defined prothrombin accelerator has been described and has been named stable factor.[2,3]

Phase 3 is universally conceded to be a simple enzymatic process in which fibrinogen is converted into fibrin by thrombin, aided perhaps by other accelerators, such as those of platelet origin.

Further details of interest include the possibility that platelet lysis may be enhanced by thrombin, fibrin, or both; the release of a locally acting vasoconstricting substance, (serotonin), from lysed platelets and the release of other prothrombin accelerating factors from lysed platelets. Anticoagulating substances are also normally present; antithromboplastin, antithrombin, and even fibrin itself all act as buffers to the process of blood coagulation. It should be pointed out that Vitamin K has no effect on prothrombin other than to enable the liver to form prothrombin.

In the application of these concepts to the case at hand, several features are important. Shortly after admission, thrombocytopenia and prolonged prothrombin time were noted. Although there are suggestions in the literature that the two may be associated, I do not understand such an association since possible thromboplastin deficiency *in vivo,* which might be expected from thrombocytopenia, ought not to affect the simple one-stage prothrombin time determination, in which thromboplastin is deliberately added in excess.

Stefanini[5] has reported a case, in which this association was noted (secondary thrombocytopenic purpura) and in which he showed not only thrombocytopenia, but also decreased prothrombin accelerator factors, explaining the delayed prothrombin time on the coincident occurrence of the accelerator deficiency.

In the present case, the addition of a drop of normal plasma to the patient's plasma resulted in a normal prothrombin time, suggesting that no circulating anticoagulant was present in sufficient quantities to prevent prothrombin activity. The protamine titration, a test to determine the presence of a circulating heparin-like compound, was also normal. Yet when the thrombin was added to the patient's plasma no clot formed, even with the addition of thromboplastin and calcium (not normally needed to convert fibrinogen to fibrin in the presence of excess calcium). I do not understand this finding in the face of a normal coagulation time.

The presence of fibrinolysin may be significant. This is a substance which can cause dissolution of a clot. The fibrinolysin system has been incompletely described. The following scheme seems to be established thus far.[5] Profibrinolysin normally present in the plasma may be activated to fibrinolysin by an enzyme (fibrinolysokinase). This system is normally held in check by an antifibrinolysokinase and an antifibrinolysin. It is probable that fibrinolysin was present in excess quantity in the case we are discussing and that it may have been responsible, not only for the clinical hemorrhage, but also for the failure of a clot to form when thrombin was added to the patient's plasma *in vitro.* Carcinoma of the prostate has been reported to produce excess fibrinolysin. Furthermore, Wintrobe[7] and others report the suggestion of activation of the fibrinolysin system by the stress phenomenon, and that antifibrinolysin may be stimulated by ACTH, a drug the patient was receiving. Fibrinolysins have also been described in cases involving placental separation, transfusion reactions, and in bleeding diatheses associated with leukemias and cancer of various organs.

In summary, I think this patient had a prostatic carcinoma with widespread metastases including the bone marrow, with resulting secondary thrombocytopenia and excess circulating fibrinolysin. The situation was probably controlled, at least partially, by steroid therapy which the patient received.

Doctor Goldish's Diagnoses

Hemorrhagic diathesis, due to:

Thrombocytopenia, secondary, and excess circulating antifibrinolysin, due to:

Carcinoma of the prostate with widespread metastases.

Anatomic Diagnoses

Adenocarcinoma of the prostate with multiple metastases.

Widespread metastases to bone marrow.

DR. A. C. AUFDERHEIDE (St. Mary's Hospital): At autopsy the heart weighed 500 grams, but except for mild coronary arteriosclerosis showed no further ab-

(Continued on Page 124)

President's Letter

THE CORNERSTONE

The county medical society is the basic cornerstone of medical organization. Just as a great and impressive building must have a firm foundation, replete with strong cornerstones, so the state and national medical organizations must have a firm foundation in strong county medical societies.

It is very difficult for medicine's critics to realize that the state and national groups have no power over the county medical society, and can dictate to it in *no* way. Medical organization is a confederacy, not an autocracy. Those who picture the AMA as a gigantic, all-powerful trust, are laboring under delusions; the state and national groups do not enter a county society problem unless specifically requested to give help.

The extensive value of a county medical society cannot be overemphasized. It is the entrance port for membership in the state and national organizations. A member of the county medical society and the state medical association does *not* have to be a member of the American Medical Association.

To my mind, one of the most important projects of the local society is the proper preparation and reception of new members. It is in the county medical society that the new member becomes aware of his many obligations, as well as his privileges—these are necessary things if the new member is to fulfill the ideals of what the practicing physician should be. In practical terms, the county society is the character-building organization, to the end that the nation and the profession are well served.

The job of informing long-time, as well as new members, is that of the county officers. They must keep themselves aware of the larger problems of state and national medical organizations. They can be aided by the conscientious efforts of state officers, councilors and AMA delegates to report the decisions and discussions carried on at a state and national level. The membership in general can be kept well informed by discussions at annual meetings with officers on problems of membership, programs, mediation committees, and the many varied activities of medical organization. One of the most valuable of these meetings is our recent County Officers' meeting, held to acquaint and re-acquaint county officers with the sometimes intricate, but always interesting, procedures and policies of the state and county organizations.

Another important and recurrent problem is how best to stimulate the "old" member to assume more active interest in his local society. I fear that there are too many who are simply "going along for the ride." How immeasurably more pleasant and satisfactory would be the work of the officers of the state and county organization if every one of our members took the active interest he or she should.

It would be hard to evaluate the worth of such interest, both to the public and the profession. Truly, the county medical society is, and rightly should be, a strong and indomitable cornerstone of medical organization. It is upon this solid foundation that the state and national groups depend for a secure base, for if it crumbles, the entire structure could be seriously impaired.

Arnold O. Swenson

President, Minnesota State Medical Association

Editorial

JOHN F. BRIGGS, M.D.
HENRY G. MOEHRING, M.D.
ARTHUR H. WELLS, M.D.

THE DOCTOR AS A WITNESS IN INDUSTRIAL COURTS

The doctor is a highly important witness when testifying as an expert in his chosen profession before a referee of the Industrial Commission in a workmen's compensation case. He is called because of his knowledge gained through study and experience in a particular field of medicine. His testimony is not above being challenged by other experts in the same field, nor is it beyond being questioned or disbelieved by the average layman.

This leads to one thing: the expert witness, regardless of whatever field of endeavor in which he is qualified, must be prepared for the rôle he is to take, and his testimony must be straightforward and unbiased.

If the doctor has treated the patient, keeping complete medical records and having them while testifying is of the utmost importance. Without records, how can a medical witness testify as to the first day the patient came to him as a result of injury or illness? Unless the doctor has a superhuman memory, how can he recall what the patient's complaints were, what examination was made and what treatment given? History is essential as a part of the doctor's records, not only from the standpoint of care and treatment, but also for future reference, should litigation or a claim arise because of a trauma or occupational disease the patient may have suffered, which resulted in his need for medical attention. These records should cover not only the first visit, but subsequent visits, right down to the day of discharge. The first entry in the record in most cases, of necessity, will be quite detailed. Entries covering subsequent visits may be shorter, but not so sketchy that they do not contain the patient's symptoms, complaints, prognosis or treatment. Mere dates of visits are not enlightening.

A medical witness, as well as any other expert, must testify to the facts as he understands them to be. His testimony to be of value must be unbiased and his opinions based on sound medical principles backed by his knowledge and experience. To color one's testimony in favor of one side or the other in a dispute is unforgivable. The trier of facts soon becomes aware of the witness who does so and consequently his testimony is discounted to that degree. His efforts to become an advocate for one of the parties does not reflect credit upon himself or his profession, nor does it redound to the benefit of the recipient of his efforts. The medical witness who expresses his honest opinion, regardless of whether it is favorable to the party who calls him or to the opposing side, is the most valued and most respected in the eyes of the trier of fact. Medicine not being an exact science, very often it is impossible to make an exact diagnosis, either because of lack of experience on the part of the doctor in a particular field, or because the problem is so controversial that several diagnoses may be made. In such a situation, the expert witness should make a straightforward statement that he does not know, or give a qualified opinion, based on sound medical principles, of his knowledge as to what the diagnosis may be. If he pursues this course, the trier of facts will have much greater respect for him and give greater credence to his testimony, than if he engages in specious theorizing.

NORBERT WILLWERSCHEID
Chief, Division of Workman's Compensation

THE PHYSICIAN AND HIS BUSINESS INSURANCE

The medical men, by the very nature of his profession, has made himself vulnerable to both loss and abuse. If he is successful financially, there are many ways by which his future can be impaired. His possessions may be damaged, destroyed or stolen. His financial future may be ruined through claims brought against him charging malpractice.

By the very nature of a medical man's training, he is keenly aware of the value of professional or expert advice. If the physician's problems, insurance-wise, were laid fairly before a competently qualified insurance man, the problem of securing

and preserving his economic status could be completely and adequately assured.

There are many exposures facing the physician today. In his business alone, great strides have been made to satisfy these needs. New and complete coverages have been devised to cover the actions of the doctor, whether he be acting professionally or in a personal manner. The fine equipment which graces his office or clinic also must be insured properly to hedge against a disastrous loss. The following list of coverages may or may not apply to each individual physician. They should, however, be given very careful consideration.

On building and contents coverages are available for:

Fire and Extended Coverage
Vandalism
Rent or Rental Value
Improvement or Betterment
Radium
Physician's and Surgeon's Instruments
Signs
Glass
Boiler and Machinery
Extra Expense or
Business Interruption

Under the professional activities, we find:

Premises Liability
Malpractice
Comprehensive Personal Liability
Office Burglary
Fidelity Bonds
Automobile Insurance
Non-Ownership Liability
Workmen's Compensation

Since both financial and professional ruin contantly face the physician today, he needs the best of help in choosing the specialized forms which are available for his protection. Again, we should repeat that the best insurance agent costs no more and it is of great importance to consult an agent of good reputation, one who represents insurance companies today that will have financial strength to take care of claims that will come in the tomorrow.

ERNEST COLLINGHAM

SIGMOIDOSCOPIC EXAMINATIONS

Lord Dawson of Penn visited the United States in 1923, and, in one of his addresses, made the statement that in doing physical examinations, "if one did not put his finger in the rectum he would be certain to get his foot in it." That statement marked the beginning of the popularity of the digital rectal examination as a part of every physical examination. No longer was the performance of a rectal examination the sole province of the consultant. Pathology of the rectum and lower colon was brought into the reach of the general practitioner as well as the specialist, and better diagnosis and treatment resulted. Today, the public, as well as the medical profession, is interested in earlier diagnosis of serious lesions and in the early detection of precancerous growths. No longer is the digital rectal examination considered an adequate investigation of the rectum and lower sigmoid colon, since many lesions, particularly the precancerous ones, cannot be felt. Only by means of a well-performed sigmoidoscopic examination can early lesions of this part of the bowel be visualized. Reports from all cancer detection centers are uniformly impressive in pointing out the importance of sigmoidoscopy. Since approximately 10 per cent of all adults harbor precancerous polyps in the rectum and lower colon, the need for early detection cannot be overemphasized.

The time has come when we can state with didactic assurance that no general physical examination can be considered complete without the visualization of the interior of the rectum and lower sigmoid colon. The time has arrived also when accredited hospitals should no longer condone the performance of anorectal surgical operations on patients who have not had sigmoidoscopy.

Medical schools and teaching hospitals must assume the responsibility for the teaching of sigmoidoscopy to students, interns and residents. Physicians in practice should acquaint themselves with the technical aspects of sigmoidoscopy and should make this important examination available to their patients. When sigmoidoscopy is performed as a routine procedure in all complete physical examinations, the cancer detection program will have received one of its greatest lifts.

WM. C. BERNSTEIN, M.D.

"NEW OCCASIONS TEACH NEW DUTIES"

With the advancement of medical practice from the horse-and-buggy to the jet-plane age, the activities and setting for practice have been affected for nurses probably more than for any other group. Shall we look at some of the trends in nursing in which this advancement in medicine has played a part?

1. *Extension of the Physician's Service:*—

Whereas, formerly the physician looked to the nurse for provision of a simple service devoted primarily to physical care of the sick, the modern physician tends to rely on nursing for a much more complex type of nursing care—physical, mental, emotional, and spiritual. It should be borne in mind that he expects care of all ages with increasing emphasis upon middle, later life and long-term illness and not only care of the sick, but also of the convalescent and the well. And, whereas the nurse of earlier years was found usually in hospitals or with private patients, the nurse of today appears wherever there are human beings: in institutions of various kinds; in homes; in public health agencies such as visiting nurse services, clinics for the aged and group practice, diagnostic, child, and other types of clinics; in schools; college and university health services; in industry; in doctors' offices (35,000 in 1951); in admission and related services; in transportation; in the military; in departments, schools and colleges of nursing. Limitless, indeed, in type of care, of patient, or of locale are the opportunities of the nurse to extend the service of the physician.

Co-ordination of Service.—Just as in medical practice the physician has tended to share his increasing responsibilities with many types of personnel, among them the roentgenologist, the nutritionist, the social worker, the clinical psychologist, the mental hygienist and the nurse—so also has the nurse found it necessary to share her earlier functions with others: the practical nurse, nurse's aide, or other appropriate personnel. In 1952, for example, there were 70,000 more nonprofessional than professional nursing personnel in hospitals registered with the American Medical Association. This sharing in nursing, as in medicine, has resulted in the development of a team of workers—in the one, the comparatively small nursing team; in the other, the more comprehensive health team. Requisite to effective functioning of either group, as in baseball or football, is co-ordination of the efforts of all members of the team to the end that maximum use is made of every member and optimum patient care results.

Improvement of the Quality of Service.—Among the factors contributing to improvement of nursing is recognition of the unique contribution of the individual and of good human relationships. In the field of nursing as in other fields, where studies have been made, a correlation has been found to exist between recognition of the worker and the quality of the worker's service. In the opinion of many, the physician, by doing increasing co-planning with other personnel, is giving them status, and the end result is better patient care. Studies of human relationships in hospitals being made currently by Dr. Leo Simmons of Yale University throw into clear focus the increasing attention being given to this whole area and give earnest of improvement of service through improved interrelationships.

To safeguard the patient's care in today's complex medical practice, to best extend the physician's service and co-ordinate all service for the patient as well as to improve the quality of nursing—all of these have portentous implications in the preparation of the professional nurse. Entrants to professional schools of nursing must be of professional calibre. They must have general as well as professional education. They must know not only skills and techniques, but equally important they must have knowledge and understanding of what they are doing and why. In short, the new occasions and duties in nursing demand that the nurse have education for a profession with increasing status and recognition, one whose members are equipped for responsible partnership on the health and nursing teams, who are skilled in developing and maintaining effective interpersonal and group relationships and who are prepared for useful personal, family, and community living.

KATHARINE J. DENSFORD

ACCIDENTS, THE KILLER OF CHILDREN

Suffocation

In this issue, your attention is again directed to another in the series of articles on Accidents, the Killer of Children in Minnesota. The author highlights icebox deaths—let each doctor help to maintain Minnesota's perfect record; hangings—we have several every year; and suffocation or crib deaths—let us be a little more careful in applying this diagnosis.

Dr. Berglund's comments are well worth your reading time.

TAGUE C. CHISHOLM, M.D.

The Dean's Page

DISTINGUISHED SCIENTISTS JOIN FACULTY

Since last July 1, three distinguished scientists have joined the Medical School faculty as professors in their respective department. Since each of them fills an important post, members of the medical profession in the state will be interested in learning something of their backgrounds.

On July 1, Dr. Arnold Lazarow succeeded Dr. E. A. Boyden, as Professor and Head of the Department of Anatomy. Dr. Lazarow had been Associate Professor of Anatomy at Western Reserve University School of Medicine since 1948. A graduate of the University of Chicago, where he obtained both the M.D. and the Ph.D. in Anatomy in 1941, he had been associated with Western Reserve's Department of Anatomy in various capacities since 1943. There he was recognized as an outstanding teacher and investigator. Much of his experimental work has concerned diabetes mellitus which he has studied extensively from histological, histochemical, and biochemical standpoints.

A member of Phi Beta Kappa, Alpha Omega Alpha, and Sigma Xi, he also holds membership in the American Association for the Advancement of Science, the American Association of Anatomists, the Society for Experimental Biology and Medicine, the American Diabetes Association, and the Society of General Physiologists. He is, indeed, a worthy successor to a most distinguished scholar.

Also on July 1, Dr. Ivan D. Frantz, Jr., became the George S. Clark Research Professor of Medicine. Dr. Frantz, a 1941 graduate of Harvard Medical School, prior to coming here was Associate in Medicine at Harvard Medical School, Tutor in the Biochemical Sciences at Harvard University, Assistant Physician at Massachusetts General Hospital, and Consultant in Biophysics at Massachusetts Institute of Technology. He was associated with Harvard Medical School from 1946 to 1954. His research work has dealt primarily with various phases of protein and cholesterol metabolism.

Dr. Frantz is a member of the American Society for Clinical Investigation, the American Association for Cancer Research, and the American Society of Biological Chemists.

On December 16 a distinguished alumnus of the Medical School, Dr. John A. Anderson, returned to his alma mater as Professor and Head of the Department of Pediatrics. Dr. Anderson, a native of Sioux Falls, South Dakota, graduated in 1933 and served his internship at the University of Minnesota Hospitals. After further training and research work in pediatrics in Denver, Colorado, he returned to Minnesota in 1937 where he was a member of the faculty of the Department of Pediatrics until 1943. From 1943 to 1949 he organized and served as head of the Pediatrics Department at the University of Utah Medical School, and since 1949 he has held a similar position at Stanford University Medical School.

Dr. Anderson succeeds as Head of the Department of Pediatrics Dr. Irvine McQuarrie, who requested that he be relieved of administrative duties in order to devote his remaining five years on the faculty to teaching research and writing. Dr. McQuarrie was recently honored for his twenty-five years of outstanding service to the University.

The Medical School is indeed fortunate to be able to add men of the caliber of Doctors Lazarow, Frantz, and Anderson to its faculty. I hope that members of the Minnesota State Medical Association will have an early opportunity to meet each of them personally.

HAROLD S. DIEHL, M.D.
Dean of Medical Science
University of Minnesota

Medical Economics

Edited by the
Committee on Medical Economics,
Minnesota State Medical Association
George Earl, M.D., Chairman

COMPULSORY HEALTH INSURANCE ENACTED FOR SWEDEN

A compulsory health insurance plan went into effect January 1 in Sweden. It will be jointly financed by the insured persons, employers, and the government. Information on the plan is explained in a recent issue of a news letter from the Research Council for Economic Security.

The letter states these figures on shouldering the costs of the plan: "Insured persons will pay 44 per cent of the cost; employers, 29 per cent; and the state, 27 per cent. The state's portion will be passed on to tax bills and thus absorbed by the higher-income earning groups. The total cost of the first year's operation of the insurance plan is estimated at $144 million."

Who Pays?

According to the article in the news letter, state health insurance premiums must be paid by every person above the age of 16 who has a taxable income of at least $233 a year. In Sweden, this would automatically blanket in virtually all of the population with the exception of those receiving national old-age and disability pensions. "Persons earning over $3000 a year can carry an additional amount of insurance if they so desire," the letter goes on, "and will be entitled to larger sick benefits. On an annual income of $1750, the health insurance premium is $25.22 yearly."

Benefits Outlined

Among other broad benefits, the plan provides maternity protection for working women. "Expectant mothers will receive 65 to 70 per cent of their normal earnings during the compulsory maternity leave," the letter states. "All mothers will receive a bonus of $52.38 for child-birth, in addition to free public-ward confinement in hospitals, or free obstetrical care at home."

Fees Noted

Fees for physicians will be reimbursed 75 per cent up to a set ceiling, as will fees for dental work in clinics, high schools, and hospitals. Public-wards will be free. Transportation to and from the hospital, or by the doctor to and from the patient's home, will be reimbursed wholly or in part. Certain medicines will be furnished free of charge and others at reduced prices.

Apparently this news letter information was based on a report in the *New York Times* by George Axelson who stated that "the project has split the Swedes," especially the medical profession. He said, "Some physicians fear that work will be doubled or tripled, and that half their time will be taken up with filling out forms and complying with other 'red tape' requirements. The majority of practitioners, however, are observing a wait-and-see attitude."

NEW GROUP TO STUDY HEALTH PLANS

Newly organized is a commission to study various types of plans through which the American people receive medical services. The group, composed of thirteen American Medical Association members, was announced at the clinical meeting of the AMA in Miami in December. A comprehensive survey is to be made by the commission, which will require at least a year to complete.

Member from Minnesota

Representing the AMA's House of Delegates is Dr. Frank J. Elias of Duluth; Dr. Leonard W. Larson of Bismarck, North Dakota will head the commission. In announcing the group's formation the chairman of the AMA Board of Trustees, Dr. Dwight H. Murray, Napa, California said, it will have a direct bearing on the improvement of health benefit plans now offered to the American people.

Dr. Larson noted, "Because of the great interest in medical care plans at present, on the part of physicians, the federal government and the people, the American Medical Association has felt for some time that a complete factual study of all types of plans was needed. The survey will include both medical and lay-sponsored plans."

He also stated that the new commission will inquire into the nature and operation of medical service plans, the quality of medical care provided, as well as the legal and ethical status of the various arrangements now being used.

LEGION COMMANDER ADDRESSES M.D.'s

The AMA and the American Legion have agreed to try to reach a common ground on their differences.

Speaking at the AMA clinical session in Miami last December, Seaborn P. Collins, national Legion commander, offered to appoint a committee to meet jointly with an AMA-appointed committee to study these differences and try to work out some sort of solution to the debate on the VA program for non-service-connected disabilities.

In his talk before the House of Delegates, Mr. Collins pointed out that, in spite of recent differences, both AMA and the Legion are committed to the "common objectives of strengthening the security of our nation and the welfare of all of our people."

Mr. Collins urged the AMA to consider the Legion's viewpoint on the matter of service-connection. He stated:

"The American Legion neither expects nor wants the Government to give carte blanche entitlement to medical care to all veterans. We have not asked for it. The VA's goal now is 128,000 beds—for more than 20 million veterans. We are not seeking any major increase in this goal.

"At the same time, the American Legion does not want to see any war veteran who is sick and in need go without proper treatment. We know the medical profession doesn't, either. Further, we believe that the war veteran with honorable service has earned such necessary treatment from the Government he served."

In summary, Mr. Collins declared:

"The American Legion and the American Medical Association are united in our separate determination to protect this nation from the insidious, destructive forces of Communism. We are united in our determination to secure for America an adequate, economical program of national defense. We are united in our determination to imbue our citizens with a fierce love of their Country and an abiding faith and confidence in the imperishable principles that are our heritage. . . .

"Let us make certain that nothing ever comes between us to imperil this essential unity of purpose and action."

PUBLIC SERVICE EXPLAINED BY DOCTOR HESS

The president-elect of the American Medical Association, Dr. Elmer Hess, gave the keynote address before the PR conference at the Interim session of the AMA in Miami. His address, distinguished and comprehensive, carried many thoughts on what public service means, his key point being that personal sacrifice is the center of such service.

In bringing up this point, Dr. Hess quoted a seventy-two-year-old statement by an Illinois physician:

"The amenities of professional intercourse, and the obligations of medical men toward each other and the public, were perhaps better observed in 1850 than now. Then the doctor, next to the minister, was the trusted friend and counselor of every family to whom he ministered. He shared their joys, soothed their sorrows, and every passing year added to and cemented the attachment of affection between them. Now the doctor is regarded more in the light of a tradesman or mechanic, and is employed from the same consideration that a grocer, tailor or shoemaker is. The strong ties of gratitude and affection have almost ceased to exist. Relationship is now placed upon a mere commercial basis, and for this the profession is more to blame than the public."

In spite of the age of this quotation, its application to medicine today is just as correct, and bitingly so. Although the field of public relations seems to many of us of fairly recent development, Dr. Hess noted, the attempt to bring the profession into good light in the public eye, has been long in operation. Dr. Hess said, "A public relations program, as I see it, is a concentrated effort to do good and to gain public recognition of such deeds. In too many instances the inverse attitude is maintained. A drum-beating campaign is established to create the impression of altruistic purpose with no sincere desire to back up fine words with suitable deeds."

Dr. Hess warned that in trying to bring the profession into a more favorable light, the profession may have neglected to do some soul-searching on its own. He asked, "Is it possible that we spend too much time telling each other what great humanitarians we are while the pot of lay discontent is boiling over in the next room?"

He urged physicians to reconsider a rededication to the firm basis of the profession itself: service. "So far as I'm concerned the most im-

portant rule that physicians should follow is that we *must* care for the sick and infirm, regardless of fees, salaries or honorariums," he declared. "The backbone of medical ethics is summed up in a short sentence: 'Service to suffering humanity, period.' "

His concluding remarks were: "Words alone are not sufficient to convince a cynical public of the humanitarian purposes of medicine. Let us not just try to **convince** the public; let us DO for the public."

REPORT SHOWS UNITED STATES COST OF SICKNESS

Some favorable information on doctors' fees in relation to the cost of sickness in the United States, is shown in a recent special article in *U. S. News & World Report* magazine. Quoted in the AMA Secretary's Letter, the article states: "Government experts attribute most of the rise in hospital expense to higher charges resulting from better pay scales for hospital workers and the higher cost of food."

Doctors' Fees Less

"Dentists and physicians, on the other hand," the article goes on, "are getting a somewhat smaller share of the nation's private medical outlays. This finding runs counter to criticism of physicians' fees." Further explanation is made:

"Physicians' fees used to account for 30 per cent of the out-of-pocket cost; now they are 29 per cent. Dental bills are less than 10 per cent today, compared with more than 12 per cent in 1948. These fees tend to stay fairly constant for periods of years. The last big jump came during World War II. Today many physicians are charging the same for office calls and sickroom visits as they did shortly after the war."

The report stated that medical care is costing people a total of 12.4 billion dollars a year, of which 2.1 billion is met through health insurance.

Almost 400,000 nurses now are on active duty in the United States, an increase of 16,000 in five years, according to a Public Health Service survey. The estimate shows the following: 231,000 hospital nurses, a 15 per cent increase in four years; 74,000 private duty nurses; 35,200 nurses working in physicians' offices; 25,300 public health nurses; 14,000 industrial nurses; 8,200 nurse educators and 1,900 in a variety of other fields. Although the ratio of nursing personnel to patients is at an all-time peak, 74 per 100, Surgeon General Scheele said the need for nurses justified the present annual student nurse recruitment goal of 55,000.

CLINICAL-PATHOLOGICAL CONFERENCE

(Continued from Page 116)

normalities. The right lung weighed 730 grams, the left 510 grams. Moderate pulmonary edema and patchy bronchopneumonia were evident. The liver weighed 2480 grams, showed only engorgement of the central sinusoids microscopically; no evidence of hepatitis, cirrhosis or fatty metamorphosis could be found. The spleen weighed 210 grams, was not abnormal grossly or microscopically. The gastrointestinal system and pancreas were not abnormal. The right kidney weighed 150 grams, the left 225 grams; they showed no gross or microscopic pathology and the ureters were not dilated. A suprapubic cystotomy opening was still patent and the urinary bladder mucosa very hemorrhagic. The prostate was enlarged considerably, measuring 7 by 6 by 6 cm., remarkably firm, homogeneous and gray-white. The microscopic appearance was that of a characteristic well-differentiated adenocarcinoma. The adrenal glands were not abnormal grossly or microscopically. Many periaortic and supraclavicular lymph nodes showed metastatic carcinoma. The sternum and lumbar vertebrae showed metastatic carcinoma to such a degree that only an occasional focus of uninvolved marrow could be found on microscopic examination.

In view of the clinical course and laboratory findings, it was our opinion that the hemorrhagic diathesis could not be explained on the basis of bone marrow replacement by metastatic tumor alone, and that the fibrinolysin system, as pointed out by Dr. Goldish, was probably the major factor in the bleeding process.

DR. JOHN WOLFF (Duluth Clinic): I agree that this patient had a thrombocytopenia, probably myelophthisic, and circulating fibrinolysin in significant amounts; I doubt whether they are related to each other. The apparent paradox of failure to clot with addition of thrombin but an almost normal plasma fibrinogen may be resolved by the concept of antifibrinolysin in normal plasma. The possibility of acute adrenal insufficiency as immediate cause of death must be kept in mind because of the relatively rapid withdrawal of ACTH.

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Public Health

GUIDE FOR MEDICAL POLICIES FOR LOCAL PUBLIC HEALTH NURSING SERVICES

These medical policies have been jointly agreed upon by the Public Health Nursing Committee of the Minnesota State Medical Association and the Section of Public Health Nursing, Minnesota Department of Health.

Preamble

A public health nursing program for any community includes:

1. Part-time home nursing care and rehabilitation nursing for the sick and disabled.
2. Health guidance for families.
3. Participation in community measures to prevent disease.

In addition to part-time home nursing care service, the public health nurse offers health guidance to the entire family. She serves families through the home, school, at work and in clinics. She has contacts with many persons who are not ill but who might benefit by health instruction and health guidance.

Public health nursing services should be available to everyone in the community—rich or poor and without regard to race, color or creed. Bedside nursing care services should be provided on a fee basis in accordance with the individual's ability to pay.

Another principle of a sound public health nursing organization is that every local public health nursing service appoint a medical advisory committee. A public health nursing service can function successfully only in close co-operation with the medical profession.

Representation on the medical advisory committee of the local public health nursing service should include the local medical society, medical specialty groups, and the health officer. In areas where there are few physicians, all of them may be members of the committee.

The chairman of the medical advisory committee should be a member of the administering body (the board) of the local public health nursing agency. Written medical policies for the agency should be prepared and signed by the members of the medical advisory committee.

Approved by the Minnesota State Medical Association, December 12, 1954.

Functions of the Medical Advisory Committee

1. To discuss and recommend medical policies to be followed by the nursing staff.
2. To make recommendations to the Board regarding the initiation and continuance of special phases of the agency's program that involve medical consideration.
3. To help prepare or to approve any publicity that involves medical information or that is to be sent to physicians; and to help with the selection of medical speakers for annual and public meetings.
4. To act as liaison between the public health nursing service and the medical society.
5. To interpret the organization to the medical society.
6. To approve the content and frequency of health examinations of the staff before and during employment and to advise regarding a health program for the staff.

Suggested Medical Policies

Except under highly unusual circumstances, public health nurses should not be expected to answer to the directions of persons other than licensed physicians and surgeons. Provided, however, that public health nurses may carry out nursing functions under the direction of other licensed health practitioners insofar as the practices of the latter, in medical and surgical fields, are within the limits of their licensure, and insofar as such orders may be compatible with the training and experience of public health nurses to perform.

The public health nurse rendering bedside nursing care and rehabilitation nursing services to acute or chronically ill persons at home, shall obtain verbal or written orders directly from the physician. Chronically ill patients shall be seen by a physician not less often than every six months if nursing service is to be continued.

Written orders for any treatment or for hypodermic therapy must be obtained from the physician.

Records of nursing services to individuals or families are kept in a confidential file in the office of the local public health nursing agency. The nurse should make a written report to the referring physician and/or agency of the services she has rendered to the family.

Hypodermic Policy.—Nurses are permitted to give intradermal, subcutaneous and intramuscular injections on written orders from the physician. Orders should include the name of the drug, dosage, frequency and method of administration and any precautions necessary The nurse may accept verbal orders if arrangements are made to have them in writing by the next day. The administration of one dose of insulin upon direct verbal order of the physician is included in this policy. Families may be instructed to give intramuscular injection on written request of the physician.

The nurse may *not* give intravenous injections, cold shots, or drugs which may commonly cause severe reactions. The Medical Advisory Committee will be consulted about the requests for any questionable or unfamiliar therapy.

At such times as the services of licensed practical nurses, nurses aides or homemaker services are indicated, the public health nurse will plan accordingly with the family and the family physician. However, the public health nurse will continue to assist the worker and the family on the basis of need. The public health nurse, after consultation and in co-operation with the family physician, may refer patients to the local public and private health and welfare facilities.

The establishment of clinics or other health activities which involve medical service shall be undertaken only upon approval of the local physicians in the community or county or District Medical Society.

Suggested Standing Orders

(Until nurse can contact physician)

The following orders are used only until the nurse can get in touch with the physician. No more than two visits shall be made to an ill patient who is not under the care of a physician. If there is no physician, the family is urged to select and call one and an explanation is made that the nurse cannot continue care except under the physician's directions.

1. New Patient: Bathe and make patient comfortable. Instruct family as to care.
2. Burns: Apply sterile dressings to superficial burns. If burns are severe, advise and help arrange immediate medical care. If transportation of the patient is indicated, extensive burns may be covered with a sheet. Avoid use of ointments.
3. Surgical Dressings: Dressings may be reinforced.
4. Minor abrasions and cuts: Wash with soap and water and cover with clean dressing.
5. Varicose Ulcers: Cleanse; apply sterile dressing and bandage firmly.
6. Sore Throats and Colds: Isolate, urge fluids.
7. Suspected communicable diseases: Isolate and give nursing care and instruction as indicated. If family refuses to call physician, notify local health officer.
8. Discharging Ears: Clean outer ear with swabs moistened with boiled water. Dry thoroughly. Do not irrigate. Urge prompt medical attention.
9. Accidents: The nurse will limit herself to those accepted procedures described in the American Red Cross First Aid Handbook. Medical care should be arranged for immediately.

Suggestions About Program

Health of Mothers.—The public health nurse's work with mothers and infants is an important part of public health service.

In working with expectant mothers the aim is to bring the women under early and continuous medical care and to teach the elements of prenatal hygiene and good nutrition practices. The public health nurse should secure orders from the individual physicians for treatment and nursing procedures to be carried out for their patients. Prenatal classes for patients are highly encouraged. They should be organized under the auspices or with the approval and active support of the local physicians.

It is most important that the mothers be instructed to return to their physicians for their postpartum medical check-up.

Encouragement is given to mothers to breast feed their infants except where contraindicated. Instruction is given in the care of the breasts and the proper techniques for breast feeding.

Health of Infants and Preschool Children.—Every effort should be made to contact the mother of a new infant within 48 hours after the infant's discharge from the hospital. In the case of the prematurely born infant the mother should preferably be contacted before she leaves the hospital and plans should be made for preparing the home for the prematurely born infant and for subsequent visits to the home with the approval of the attending physician.

The value of continuous health supervision and appropriate medical services for the infant and preschool child by the private physician or clinic should be stressed. This health supervision includes determination of the health status of the child and deviations from normal; immunization against such diseases as diphtheria, pertussis, smallpox and tetanus; and counseling in all phases of infant and child care and growth and development. The public health nurse supplements the instruction given by the physician and elaborates on the details, especially as concerns techniques of food preparation and feeding, daily care of the infant, good hygiene practices, habit training, accident prevention, et cetera.

Health of School Children.—School health work may operate under the immediate direction of the school administrator. The "School Health Manual for use in Minnesota Schools" should

constitute the base line upon which programs for the health of school children are constructed. In addition, the nursing board and the school health council (if there is one), each with medical, dental and lay representation, should help guide the service. The nurse consults with parents on problems of child health and environment and guides parents to other sources of aid which may be needed. The nurse co-operates with the school staff, parents, physicians and dentists in arranging for and conducting health programs in such a manner that they become an educational experience for all participants.

The school nurse aids in the control of communicable disease by helping parents and teachers recognize conditions for which the child should be isolated. Primary responsibility for exclusion of sick children is fixed by Minnesota State Board of Health Regulation number 318 which reads:

"The person in charge of a school shall exclude from school all children who (a) return to school after an illness of unknown cause, (b) appear to be in ill health, (c) have lice or other vermin. The parents of such children shall be notified of the reason for exclusion and such cases shall be referred to the family physician, the school physician or the health officer. Children shall not be readmitted until they obtain a certificate from the health officer or his authorized agent."

Crippled Children Services.—The State Service for Crippled Children merits full co-operation of all interested local agencies to fulfill its functions. The prevention and correction of physical handicaps due to bodily defects needs supervision over long periods of time. The nurse works with the individual physician in the care and supervision of these cases.

Due to her close contact with the patient, the public health nurse may discover deviations from the normal—not only in the infant, but also in the preschool and school child. She helps parents make precise and concrete plans for the regular and continuing medical care of the crippled child.

The nurse's duties in the individual case lie in the education of the family in the patient's care, the demonstration of and instruction in home nursing, the general health supervision of the afflicted child, and the supervision of therapeutic exercises recommended by the physician in charge. The nurse will aid the rehabilitation of the patient in every way.

Communicable Disease Control.—The control of communicable diseases is the responsibility, not only of the public health nurse and the official agency, but is also the concern of the medical profession and general populace. If communicable diease is suspected, the nurse should explain to the family the elementary principles of isolation, concurrent and terminal disinfection and such other measures which will aid in preventing the spread of disease.

In aiding physicians in the control of preventable diseases, public health nurses are expected to co-operate with the local health officer and to follow the Regulations of the State Board of Health.

The nurse should teach families that immunizations for infants should be started at 3 or 4 months of age and thereafter repeated at regular intervals as determined by the physician. Group immunization programs should be conducted under the auspices or with the approval of a local medical society. (A number of biological preparations for mass immunization programs are available without cost upon application to the Minnesota Department of Health.) The nurse's contribution to such programs consists of participation in preliminary education of the community, assisting with the necessary arrangements for carrying through the programs, assisting the physicians when the immunizations are being performed, summarizing reports, and keeping local records of immunization.

Tuberculosis Control.—The public health nurse contributes to the control program through her work with the family. She is often able to bring a suspected case of tuberculosis to the attention of the physician, thereby assuring an early diagnosis. She teaches the need for participating in tuberculin testing programs and in mass x-ray surveys.

Her service to the family includes sharing information about the disease; nursing care services to patient in the home; taking steps to prevent the spread of tuberculosis and helping the patient and family make necessary adjustments.

Rehabilitation and the return of the patient to his community and his family needs skillful guidance and arrangement of an environment in which the patient can carry on the recommended treatment.

If drug therapy is to be given a patient by the nurse, she should first secure from the supervising physician specific written instructions for her guidance; from time to time these instructions should be changed to fit changes in the prescribed treatment.

Minnesota Academy of Medicine

Meeting of March 10, 1954

The regular monthly meeting of the Minnesota Academy of Medicine was held at the Town and Country Club on Wednesday evening, March 10, 1954. Dinner was served at 7 p.m. and the meeting was called to order at 8:20 p.m. by the vice-president, Dr. C. N. Hensel.

There were forty-eight members and one guest present.

Minutes of the February meeting were not read due to the length of the scientific program.

The following memorial was presented at this meeting.

Arthur Edwin Benjamin
1868 - 1953

Dr. Arthur Edwin Benjamin, a member of this Academy since 1903, died October 1, 1953, after an active practice in Minneapolis covering a span of over sixty years. He was born in Hutchinson, Minnesota, in 1868. His father and grandfather were physicians.

Dr. Benjamin received his degree in medicine from the University of Minnesota in 1892. Even before graduation, his teaching ability was recognized and in 1890 he was made an assistant instructor in gynecology. After graduation, he continued in the department of gynecology and, after postgraduate study in London, Vienna and New York, was made chief of one of the gynecological services at the Minneapolis General Hospital. He served in this capacity until his retirement as professor emeritus in 1938. He continued on the service as consultant. By those of us who served under him during those years, his conscientious care of the patients, the excellent results of his diagnostic acumen, surgical judgment and operative skill, and his constant kindly and helpful consideration of his staff will long be remembered.

Dr. Benjamin was very active in the Hennepin County Medical Society and became one of its presidents. He was always most conscientious in the performance of any assignment given to him during his long association with that Society. Other medical society memberships included the Minnesota State Medical Association, the American Medical Association, the American College of Surgeons, the Western Surgical Society and the Southern Minnesota Medical Association. He belonged to the staffs of St. Barnabas and Northwestern Hospitals, and was once chief of staff of the latter.

Dr. Benjamin, though singularly quiet, retiring and unassuming, was a man of tremendous energy and wide interests, social, political, religious and artistic. His affiliations with organizations devoted to these fields have been amply memorialized in the public press and scientific journals.

In the course of his membership in this Academy, he was always very modest, never presenting or discussing any paper unless he felt strongly that his opinion, founded upon sound study and a wide personal experience, would be of value. As those acquainted with his writings well know, he devised many clever techniques and operations.

In our social hours, we shall miss his friendly presence and his studied comments on any one of a wide range of important subjects in which he was interested. Especially shall we miss his observations upon the changes that took place during the long span of his practice, observations spiced with humor and always kindly.

Dr. Benjamin is survived by two sons, Edwin G. and Harold G. Benjamin, who are carrying on the family tradition of medicine and are practicing in Minneapolis; two daughters, Mrs. Charles J. Hoover of St. Louis Park, and Alice, who is the principal of Summit School, Saint Paul; a sister, Mrs. Olive Bacon of San Gabriel, California; a brother, Dr. Winifred G. Benjamin, a dentist in Minneapolis; and seven grandchildren.

R. T. La Vake, M.D.

The secretary announced the Executive Committee had approved the transfer of Dr. A. G. Schulze to the Senior list. Upon motion, this was seconded and carried.

The scientific program followed.

Dr. C. A. McKinlay, of Minneapolis, read his inaugural thesis on "Clinical Observations Related to Pulmonary Eosinophilia." Lantern slides were shown.

CLINICAL OBSERVATIONS RELATED TO PULMONARY EOSINOPHILIA

C. A. McKINLAY, M.D.
Minneapolis, Minnesota

This paper presents two cases of eosinophilic pulmonary infiltration, both of them transient and recurrent, in which observations were made during illness and subsequent health over a period of twenty patient-years.

Personal interest in eosinophilic pulmonary infiltration had followed observation in 1939 and report in 1941 by Ellis and myself[9] of a case of pneumonia (S. L., a twenty-two-year-old white man) with massive migratory pulmonary infiltration associated with high (48 per cent) blood eosinophilia. Prompt clinical recovery followed discontinuance of prontosil, which had been given on another service for the treatment of colitis. At no time had there been marked prostration. Our attention was called to the report by Löffler,[14] in 1932, of fleeting pulmonary infiltration with eosinophilia. Other reports from Europe followed soon. The importance of the lung as a shock organ had long been recognized, and true bronchial asthma was universally accepted as a manifestation of hypersensitiveness. However, extensive pneumonitis as an allergic response to agents other than infection was a relatively new concept; in fact, no cases occurring in the United States were then found reported. The next case I wish to cite

is one that had been observed by the late Dr. P. Hallock and by Dr. W. W. Spink in 1941, and by the writer since 1949.

Case Reports

Case 1.—H. F., a white man aged forty-six, a contractor, was admitted to the hospital March 24, 1949, because of a respiratory infection of two weeks' duration associated with moderate malaise.

Past History.—The hospital record of 1941 was reviewed. At that time, the patient had been observed in the hospital with atypical pneumonia and had been discharged as recovered. Following readmission to another hospital one week later, tachycardia and bouts of fever were noted. There were areas of infiltration in both lungs. The leukocyte count varied from 8,100 to 15,200 with maximal eosinophilia of 27 per cent. There were occasional eosinophils in the sputum. The electrocardiogram was abnormal, with a negative T_2. Toxic myocardium was suggested. Dr. Spink suggested Löffler's syndrome. Omission of sulfadiazine was suggested. Potassium iodide gr. XV daily appeared beneficial on repeated trials. The patient was afebrile when discharged.

Physical Examination.—On March 24, 1949, there were râles, chiefly at the left base. The chest x-rays showed multiple extensive areas of infiltration in both lungs. The leukocyte count varied from 8,100 to 18,900, with eosinophils of 6 to 21 per cent. The sedimentation rate was 96 mm. per hour; heterophile agglutinins were present in a titer of 1:20. The sputum showed no predominating organisms. The urinalysis gave negative findings. Skin tests using multiple allergens from various sources were negative. Muscle biopsy findings excluded periarteritis nodosa in one specimen. The maximal temperature was 102° F.; usually it was below 101° F. There was depression of the temperature for three days following the use of potassium iodide gr. V, but fever recurred. Potassium iodide gr. X was resumed April 18 and continued until discharge on April 30, with associated relief from fever on most of the days.

The patient was next admitted to the hospital on June 16, 1949, one week after having had an attack of biliary colic with associated jaundice and clay-colored stools for two days. During hospitalization, the patient improved, was afebrile, and the eosinophils dropped to 7 per cent. Eleven days later, during readmission to the hospital and after the jaundice had subsided, fever, leukocytosis and eosinophilia reappeared. While jaundice was present, there was amelioration of the pulmonary eosinophilia. At the present time the patient is well, thirteen years after his first attack, the x-ray shows no evidence of infiltration, and the blood count remains normal.

Case 2.—Mrs. C. B., a farm housewife aged thirty-five and mother of five children, was first examined on April 5, 1948, with the complaint of fatigue. About six months previously, the patient had an acute respiratory infection with systemic reaction for which she was hospitalized for two weeks. X-ray examination elsewhere suggested pulmonary tuberculosis to the radiologist. For ten days, she received penicillin and, for four days, a small amount of a sulfonamide. During this period, asthma developed. This subsided after a brief interval, but fever, malaise and persistent cough continued and she required almost constant rest in bed. Scratch tests with penicillin were negative.

The laboratory findings at variance from normal were: hemoglobin 11.3 gm., leukocytes 11,100 and 39 per cent eosinophilia. At another time 45 per cent eosinophilia was noted; the sedimentation rate was 114 mm. per hour. Negative findings of importance were: absence of ova and parasites, normal serum protein, normal heterophile reaction, negative blood culture, absence of acid-fast bacteria and negative bone-marrow except for marked eosinophilia. The treatment was symptomatic; the temperature was only slightly elevated on three of eleven hospital days.

After three years of good health, the patient was next observed on March 18, 1953, with fever, fatigue and dyspnea of six weeks' duration. There were minimal physical findings in the chest. X-ray examination showed extensive infiltration in both lung fields. The routine laboratory findings were: hemoglobin 11.7 gm., leukocyte count 11,800 and 20,600, with 38 to 48 per cent eosinophils; sedimentation rate 112 mm. per hour; sputum showed mixed growth. Clinical improvement occurred, and the patient was discharged. She was readmitted about two months later because of recurrent bouts of respiratory symptoms, fever and fatigue. Liver function tests were normal. Moderate fever subsided during ten days' hospitalization. The patient was readmitted July 13, 1953, because of recurrence of fever, fatigue and cough. The hemoglobin was now 10.1 gm.; the leukocytes were 14,000, with 36 per cent eosinophils. Cortisone was started orally and given daily in the maximal amount of 200 mg. There was immediate clinical improvement. On the third day of treatment, with a leukocyte count of 12,400, the eosinophils numbered 1 per cent; on the following days the eosinophils were 0, 1, 3, 1 and 10 per cent. This response is in keeping with the known influence of cortisone in lowering blood eosinophilia in persons with intact adrenals. She is now on a small maintenance dose of cortisone and is in excellent health, according to Dr. R. F. Gammell, through whose courtesy the patient was examined. Rose[6] first reported benefit in a case of Löffler's syndrome following the use of cortisone.

Other Cases

C. T., a man aged twenty-four, currently being observed, is cited with an upper respiratory tract infection associated with eosinophilia (32 per cent). This case illustrates that various infections and infestations provoke eosinophilic blood response without causing pulmonary infiltrations.

The high degree of eosinophilia (53 and 44 per cent) noted in asthmatic bronchitis without pulmonary infiltration and in intestinal parasitism is illustrated by the case of V. S., a man aged twenty-three, a native of India, recently observed. It has been suggested that eosinophils develop as a result of destruction of body tissue. The dissimilarity of pulmonary eosinophilia to eosinophilic granuloma of the lung should be noted. Histamine may be contained in the eosinophils of the blood.

Blood eosinophilia is an incidental finding in certain pulmonary conditions, such as sarcoidosis, hydatid disease of the lung, Hodgkin's disease and the resolving stage of pneumonia. Since 1941, there has been reported an increasing number of cases in which pulmonary infiltrations have been observed radiologically and which have been accompanied by blood eosinophilia. The term "Löffler's syndrome"[9] has included only a part of this group of diseases and should be limited to those cases with transient pulmonary infiltration and eosinophilia. There is a growing tendency to link Löffler's syndrome, erythema nodosum and tropical eosinophilia, in which there may or may not be infiltrations, under an inclusive term. Crofton and associates,[6] in their review in 1952 of some 450 cases reported in the literature, suggested the term "pulmonary eosinophilia." Under this term, they suggested the classification of (1) simple pulmonary infiltration or Löffler's syndrome, transient infiltrations; (2) prolonged eosinophilia, prolonged or recurrent infiltrations without asthma; (3) pulmonary eosinophilia

with asthma, infiltrations with asthma; (4) tropical pulmonary eosinophilia usually with asthmatic symptoms; (5) polyarteritis nodosa.

Löffler's syndrome in the continental cases reported has commonly been associated with infestation by Ascaris lumbricoides. The complete syndrome was reproduced by Vogel and Minning[21] in five of six volunteers by feeding Ascaris eggs. Other worms have been incriminated, such as Ancylostoma braziliense causing creeping eruption or itch reported by Wright and Gold,[22] Taenia saginata by Benda and Weinberg[2] and hydatid of the liver by Dörig.[8] Among miscellaneous allergens are pollens, such as privet,[10] beeswax,[11] and sulfonamides.[5] Cases with significant agglutinin titers for Brucella abortus were found. There were two with Strongyloides stercoralis infestation,[4] and one with microfilariae in the sputum. This syndrome has also followed penicillin therapy.[17]

Tropical eosinophilia, or tropical pulmonary eosinophilia, has been reviewed by Danaraj[7] and may represent another variant. In a report of 150 cases in the Orient, 81 per cent had pulmonary infiltration that showed by x-ray. This disease often has an initial febrile stage with respiratory symptoms followed by bronchitis, which becomes the most prominent feature and which may last for months or years. There is an asthmatic stage which may likewise last for months. The most dramatic aspect is the response to organic arsenic administered orally or intravenously. The cause is not yet known. Danaraj[7] rejected the theory of hypersensitivity.

Pulmonary eosinophilia may occur with asthma. Harkavy,[13] in 1943, described fifteen cases of asthma associated with recurrent pulmonary infiltration and eosinophilia. In fatal cases, in addition to edema and cellular exudate, there were lesions in the blood vessels, including acute necrotizing arteritis. This observer[13] noted widespread tissue involvement. A transient eosinophilic gastric lesion has been described.[20] Bayley and co-workers[1] reported a fatal case of Löffler's syndrome in which the outstanding pathologic findings were the large number of eosinophils in the pneumonic exudate, granulomatous lesions and necrotizing arteritis. Bergstrand[3] described similar and widespread findings of polyarteritis nodosa in four asthmatic persons who had transient pulmonary infiltrations and eosinophilia. The pathological variation from simple pulmonary eosinophilia, or Löffler's syndrome, to the widespread necrotic arteriolar changes of polyarteritis nodosa somewhat parallels the range of clinical manifestations from simple pulmonary eosinophilia. Crofton's group[6] argued that the variants described are different grades of the same fundamental process. The diversity of causative agents, the eosinophilia, and frequently the family history of allergic illness, suggest that the process is one of hypersensitivity. Rich[18] has shown that polyarteritis nodosa is a reaction of hypersensitivity. Some allergens such as those that might be implicated in tropical eosinophilia appear to be powerful enough to produce the reaction in most people. Reeder and Goodrich[16] reported, among others, a fatal case in which progressive periarteritis nodosa accompanied the "PIE-syndrome"; this latter term was suggested by these authors for pulmonary infiltration with eosinophilia. Mark[15] recently reported twenty-three cases of Löffler's syndrome and considered that the role of allergies is minor in the development of pulmonary change.

Summary

Cases herein reported include an interesting experiment by nature in which the fortuitous occurrence of jaundice benefited a patient who had recurrent pulmonary eosinophilia in a manner similar to that of the influence of jaundice upon rheumatoid disease, first stressed by Hench.[13] Another patient received benefit from the use of cortisone, which linked this case physiologically to the case in which benefit was derived from jaundice. Because of their relatively benign nature, these cases, with recovery after repeated transient pulmonary infiltrations, contrast with the irreversible stage of periarteritis nodosa which sometimes supervenes in the syndrome of pulmonary eosinophilia.

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Discussion

DR. LEO G. RIGLER, University of Minnesota: It is interesting to me to hear Dr. McKinlay mention tropical eosinophilia. When I was in India, I heard Dr. Sanjivi report on a large number of such cases. They differed somewhat from the typical Löffler syndrome which Dr. McKinlay has discussed in detail. In India, tropical eosinophilia lasts for a long time and the condition has been concentrated in children and young adults. It simulates miliary tuberculosis very closely in the roentgenogram. Since miliary tuberculosis is extremely common in India, my first impression on seeing such cases was tuberculosis, but the clinical picture is not at all like miliary tuberculosis. The eosinophilia is commonly as high as 60 to 70 per cent. Dr. Sanjivi studied the cases intensively but did not succeed in determining the etiological factor; so far as I could determine, he was completely mystified as to the cause.

DR. F. W. LYNCH, Saint Paul: As Dr. McKinlay has pointed out, the problem of eosinophilic infiltration interests practitioners in many fields of medicine. Observations in the dermatologic field may be of interest to others because we can more easily perform biopsies and thoroughly study the lesions which we see. Eosinophilic leukemia is rare and even when present it is very rarely accompanied by specific cutaneous manifestations and therefore this problem does not deserve our consideration tonight.

Eosinophilic infiltration often accompanies allergic dermatoses but this too is beyond the range of tonight's discussion. We also see fixed granulomatous circumscribed lesions, chiefly on the face, persisting for months or several years and not easily influenced by treatment. They have been of particular interest because one would suspect they would be accompanied by some systemic manifestations, though this has proved not to be the case. Perhaps they are comparable with fixed eosinophilic infiltrations in other tissues, as in the bone or the lung. However, many or most of the osseous lesions seem more closely allied with Hand-Schüller-Christian disease and therefore have much more serious implications than do the fixed circumscribed lesions. To the dermatologist it seems difficult to link all these varied eosinophilic infiltrations and we regard them as separate entities. They have in common only the presence of large numbers of eosinophils. Changes in white blood cell counts do not parallel the cutaneous nor the osseous findings.

DR. E. P. K. FENGER, Oak Terrace: I enjoyed Dr. McKinlay's paper very much. Dr. Rigler has made the statement that pulmonary eosinophilia may be mistakenly diagnosed as tuberculosis. I find that at Glen Lake Sanatorium, during the past fifteen years, we have had seven such cases admitted. These seven cases fit into Dr. J. W. Crofton's classification very well. There were two in the simple eosinophilia group, three in the prolonged pulmonary eosinophilia group, and two in the group of pulmonary eosinophilia with asthma. I think there are two other clinical entities that should be mentioned; one is eosinophilic pleural effusion and the other is eosinophilic granuloma of the lung.

DR MCKINLAY, in closing: I wish to thank the members very much for their discussions. It may be of interest to mention that patient H. F., while on a trip in the Caribbean area in 1951, had recurrence of eosinophilic pulmonary infiltration. The patient was advised by local physicians of the relative frequency of occurrence of the disease in the neighboring tropical communities.

* * *

Dr. Lyle J. Hay, Minneapolis Veterans Hospital, Department of Surgery, gave his inaugural thesis on "Transplantation of the Duct of Wirsung in the Treatment of Chronic Pancreatitis." Case reports were given and lantern slides were shown. (Thesis to be published later)

Discussion

DR. A. A. ZIEROLD, Minneapolis: It has been very interesting to listen to Dr. Hay's recapitulation of the theory of the common pathway of the biliary and pancreatic ducts. Those of us who are accustomed to employ operating-room cholangiograms have found this to be demonstrable in a surprisingly large percentage of cases. Considering acute pancreatitis, there can be little question as to its identity, but I believe that what we are accustomed to call recurrent subacute or relapsing pancreatitis may quite as well be a symptom complex arising from the reflux of the pancreatic secretion into the biliary tract. Whatever the case may be, Dr. Hay has demonstrated that symptoms arising out of the common pathway may be obviated by transplantation of the pancreatic duct. It is probable that the only other choice of treatment is section of the sphincter of Oddi.

It is gratifying to hear Dr. Hay's experience and I shall be interested in a comparison of the two procedures after more cases have been accumulated and further time has elapsed.

The meeting was adjourned.

ROBERT E. PRIEST, M.D., *Secretary*

TERATOMA OF THE RECTO-SIGMOID

(Continued from Page 110)

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In Memoriam

LYLE V. BERGHS

Dr. Lyle V. Berghs, native son of Owatonna, died in Albert Lea on December 4, 1954, of coronary thrombosis. Dr. Berghs was on his way to Kiester where he was to have re-entered private practice with another physician. He was forty-eight.

Dr. Berghs' death followed several years marked by extensive periods of hospitalization and surgery in an attempt to correct his circulatory condition.

Dr. Berghs was the first volunteer to answer the Steele county medical draft during World War II. He served thirty-seven months of intensive service, with twenty-two months overseas, in England and in North Ireland. As ship surgeon, he was wounded in a strafing attack before D-Day and was hospitalized in England, but he recovered enough to join the combat and attack forces on D-Day and served with his medical unit at the front lines through the heaviest drives.

He was born in Owatonna on April 20, 1906, and attended grade and high school there. He entered the University of Minnesota and graduated from medical school in 1929, interning at Minneapolis General Hospital. In 1930, he began his practice in Owatonna with Dr. D. H. Dewey, and renewed the practice after his service during World War II. In 1952, he was appointed to the staff of Moose Lake Hospital and served for two years.

He had been a member of the Steele County Medical Society, the Minnesota State Medical Association and the American Medical Association, the American Legion, the Veterans of Foreign Wars, Alpha Omega Alpha, the BPOE and the Holy Name Society.

He is survived by his wife, the former Adele Whetstone; one son, Thomas, Winona; one daughter, Peggy, Minneapolis; two brothers, Charles, Park Ridge, Illinois; Larry, Owatonna; two sisters, Mrs. Max Argent, Hampton, Iowa, and Mrs. Warren Gray, Waseca.

KARL EMIL BERGQUIST

Dr. Karl E. Bergquist, Battle Lake, died at Lake Region Hospital on December 10, 1954. Dr. Bergquist, well-known and loved resident of Battle Lake, would have been eighty years old on Christmas eve. He was born in St. Peter.

Dr. Bergquist came to Battle Lake from Duluth in 1935, and specialized in eye, ear, nose and throat work. He was appointed resident physician for the Otter Tail County Sanatorium in December, 1943 and served in that capacity until October, 1954.

Dr. Bergquist received his medical education at the University of Minnesota and at Hamline University, graduating in 1897. He interned at Bethesda Hospital in Saint Paul, and did postgraduate work in Chicago in his specialty.

He was married to Borghild Torkelson of Minneapolis in 1902. Mrs. Bergquist preceded him in death in 1945.

Dr. Bergquist was a life-time member of the Trinity Lutheran Church in Duluth; the Vasa Ama Society, the Park Region District and County Medical Society, the Minnesota State Medical Association and the American Medical Association.

Surviving are two daughters: Mrs. Ethel Campbell, South Bend, Indiana; Mrs. C. A. Boline, Battle Lake; four grandsons: John Lloyd Campbell, U. S. Navy; Karl Allan, Jon Edward and Robert A. Boline, Battle Lake; three brothers: Theodore, Lafayette; Oscar, Galesville, Wisconsin; and Ernest, Rapid City, South Dakota.

ROBERT ALLEN CAMPBELL

Dr. Robert A. Campbell, retired Minneapolis physician and surgeon, died on January 7, 1955. He was eighty-six.

Dr. Campbell was an eye, ear, nose and throat specialist who practiced in Minneapolis more than fifty years. He was born in Detroit on December 27, 1868, and graduated from the University of Minnesota Medical School in 1896 and was licensed in the same year.

Dr. Campbell was a member of Phi Gamma Delta and Nu Sigma Nu, medical fraternities; a former member of the Hennepin County Medical Society, the Minnesota State Medical Association and the American Medical Association. He was a fellow of the American College of Surgeons and was for many years on the staff of Abbott Hospital.

He is survived by his wife, Mary S.; one daughter, Dorothy; one son, Gilbert M., Sacramento, California; one brother, George G., Portland, Oregon; two sisters, Mrs. Mert Patterson, Portland, Oregon and Mrs. William Cowing, Hamilton, Canada.

ROBERT WILSON CAMPBELL

Dr. Robert W. Campbell, prominent Cass Lake physician for many years, died at Rochester, December 13, 1954. He was seventy-five.

Dr. Campbell was born at Parkers Lake in Hennepin County, on February 14, 1879. He obtained his preliminary education at Tracy and received his medical education at the University of Minnesota, from which he graduated in 1905. He set up his practice in Swanville in 1905, moving to Deering, North Dakota, in 1914 and remaining there until 1919. From 1919 to 1926 he practiced in Blackduck, Minnesota, and then moved to Bisbee, North Dakota, until 1930 when he located at Cass Lake, where he remained until his death.

After his graduation, he took one year's internship at City and County Hospital in Stillwater and did postgraduate work in Chicago for six months.

Dr. Campbell founded the Cass Lake General Hospital. He was chairman of the Civic Improvement Committee of Cass Lake, and as such he drew the first

plans for the community's lakeshore park. He also belonged to many civic and fraternal organizations.

He retired from active practice about ten years ago. He has been a member of the Upper Mississippi Medical Society, the Minnesota State Medical Association and the American Medical Association.

Dr. Campbell is survived by his wife; a son, Robert, Rochester; and three daughters, Mrs. A. B. North and Mrs. Glenn Harris, both of Los Angeles, and Audrey, believed to be in Minneapolis.

ENOCH HAUGSETH

Dr. Enoch Haugseth, retired Twin Valley physician, died at his home at the age of eighty-three on December 2, 1954.

Dr. Haugseth had been in retirement for about fourteen years at the time of his death, but had been in Twin Valley since 1906, practicing actively for about twenty-five years.

Dr. Haughseth was born on September 21, 1871, in Rendalen, Norway. He became a citizen of the United States in 1896, two years after he graduated as a pharmacist from the University of Minnesota. In 1902, he received his M.D. degree.

After practicing at Lake Park from 1902 to 1906, Dr. Haugseth came to Twin Valley. He was much interested in local church activities and also served for a number of years as president of the local school board, and as local health officer. He was also local surgeon for the Northern Pacific Railway.

Dr. Haugseth had been a member of the Red River Valley Medical Society and the Minnesota State Medical Association.

He is survived by his wife, the former Elizabeth Wold; three daughters, Mrs. Walter Johnson, Twin Valley; Mrs. Arthur Tillinghast, Great Neck, New York; and Mrs. Ralph Fjelstad, Northfield; two sons, Dr. Ellsworth, South Bend, Indiana, and Enoch of Seattle; and fourteen grandchildren. One son, Clarence, Portland, North Dakota, preceded him in death.

GUSTAV M. HELLAND

Dr. Gustav Helland of Spring Grove died at his home after a long illness, on December 8, 1954. He would have been seventy-nine on December 23. He was one of Spring Grove's early physicians, arriving in 1910 and serving until 1945 when ill health forced him to retire.

Dr. Helland was born in Lisbon, Illinois, in 1875. He lived on a farm near Black Earth, Wisconsin, as a child and attended grade and high school there. From 1892 to 1898, he worked as a pharmacist in Chicago; later he owned and operated a drug store in Mount Horeb, Wisconsin. Entering medical school, he received his medical degree from Marquette University at Milwaukee in 1908, practicing for one year in Mount Horeb.

In 1910, he moved with his family to Spring Grove. He served in the medical corps during World War I and rose to the rank of major, remaining a member of the reserve medical corps.

Dr. Helland was a member of the American Legion; the Commercial Club; the National Association of Military Surgeons; the Olmsted-Houston-Fillmore-Dodge County Medical Society, the Minnesota State Medical Association, the American Medical Association; the Shrine and the Spring Grove A.F. and A.M. Lodge. He served as president of the Spring Grove Hospital for fifteen years and also served on the school board for a number of years. In 1950, the community of Spring Grove paid tribute to his many years of service.

He is survived by his wife, Julia; four daughters, Mrs. V. V. Lindgren, Portland, Oregon; Mrs. Ronald Shaw, Oakland, California; Mrs. Bevis Ash, Redding, California; Mrs. Dan Morris, Alamo, California; one son, Kenneth W. C. of Janesville, Wisconsin; four brothers, Dr. J. W. Helland and C. J. Helland of Spring Grove; Dr. C. A. Helland, Argyle, Wisconsin; and Randolph O. Helland, Portland, Oregon.

BERT R. KARN

Dr. B. R. Karn, who practiced at Ortonville for forty-seven years, died of a heart attack at the Dyckman Hotel in Minneapolis, January 4, 1955. He was sixty-five.

Dr. Karn, who operated a clinic in Ortonville with his son, J. Francis, began practice with his father in Ortonville in 1907. He received his medical degree the same year from the University of Minnesota.

Dr. Karn was born in Ontario, Canada, in September, 1882, and had his preliminary education in Ortonville. After graduation in 1907 from the University of Minnesota, he took his internship at Washington Hospital in Chicago, where he also took postgraduate work, specializing in eye, ear, nose and throat work in 1916.

Dr. Karn is survived by his wife, and three sons: J. Francis, Ortonville; Richard and William.

DENNIS MICHAEL O'DONNELL

Dr. D. M. O'Donnell died at his home in Ortonville, on December 5, 1954, after a long illness. Dr. O'Donnell had practiced at Ortonville for thirty-seven years. He was sixty-nine years old.

Dr. O'Donnell was born on September 28, 1885, at Aberdeen, South Dakota. In 1910, he graduated from the University of Illinois and was licensed to practice medicine in Minnesota, South Dakota, Illinois and California. He attended Aberdeen High School and Aberdeen State Teachers College at Aberdeen, graduating in 1906. He interned at Chicago Hospital for eighteen months. He practiced in Odessa, Minnesota, for one year; in Huron, South Dakota, for one year before coming to Minnesota to practice in Ortonville. He was a staff member of the Ortonville Evangelical Hospital.

Dr. O'Donnell served as physician for the Milwaukee Railway, the Fire Department and also was chairman of the Board of Health. In 1953, the community paid its tribute to him with a gathering in his home sponsored by the Civic and Commerce Association.

(Continued on Page 136)

Reports and Announcements

MEDICAL MEETINGS

State

MINNESOTA STATE MEDICAL ASSOCIATION, annual meeting, Minneapolis, May 23-25, 1955.

National

American Cancer Society, Board of Directors and special committee meetings, Hotel Radisson, Minneapolis, June 2, 1955.

American College of Chest Physicians (Council on Postgraduate Medical Education) and Laennec Society of Philadelphia, eighth annual postgraduate course on Diseases of the Chest, Bellevue-Stratford Hotel, Philadelphia, Pennsylvania, March 7-11, 1955.

American College of Surgeons, sectional meeting, The Fort Harry, Winnipeg, Manitoba, Canada, April 25-26, 1955.

American Goiter Association, annual meeting Skirvin Hotel, Oklahoma City, Oklahoma, April 28-30, 1955.

American Medical Association, annual meeting, Atlantic City, New Jersey, June 6-10, 1955.

International

International Academy of Proctology, seventh annual meeting, Hotel Plaza, New York, New York, March 23-26, 1955.

International College of Surgeons, United States Section, Southwestern Division regional meeting, Shamrock Hotel, Houston, February 28-March 1, 1955.

Inter-American Congress of Radiology, Shoreham Hotel, Washington, D. C., April 24-29, 1955.

International Hospital Congress, Lucerne, Switzerland, May 30-June 3, 1955.

International Symposium on Cardiovascular Surgery, Henry Ford Hospital, Detroit, March 17-19, 1955.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next scheduled Examinations (Part II) oral and clinical for all candidates for certification by the American Board of Obstetrics and Gynecology will be conducted at the Edgewater Beach Hotel, Chicago, Illinois, by the entire Board from May 12 through May 20, 1955. Formal notice of the exact time of each candidate's examination will be sent him in advance of the examination dates.

FAMILY DOCTORS' DAYS
at the
University of Minnesota Hospitals

All physicians are cordially invited to attend the following Family Doctors' Days which will be presented under the direction of the department indicated.

February 16—Division of Anesthesiology
March 16—Division of Urology
April 20—Division of Neurosurgery

Activities begin with luncheon at 12:15 noon with the staff of the Department in the Hospital Dining Room and will continue throughout the afternoon.

For further information, write the head of the department concerned or the Director, Department of Continuation Medical Education, University of Minnesota Hospitals.

NATIONAL HOSPITAL WEEK

Each year the nation sets aside one week in which to become better acquainted with its hospitals. National Hospital Week in 1955 will be May 8-14. During this week the attention of the American public is focused on our hospitals, in which one out of every eight of us receives care each year. The theme of National Hospital Week in 1955 will be "Your Hospital . . . A Tradition of Service."

National Hospital Week is sponsored annually by the American Hospital Association. Celebration of a National Hospital Day began in 1921 and was expanded to a week in 1953. National Hospital Week is traditionally built around the May 12 birthday of Florence Nightingale, the famous nurse crusader of the Crimean War, whose pioneer service led to the improvement of hospital care in both England and America.

AMERICAN HEARING SOCIETY

The American Hearing Society announces March 1 as opening date for competition for the 1955 Kenfield Memorial Scholarship, an award made annually to a prospective teacher of lipreading. Application blanks may be obtained by writing to the society's national headquarters, 817 14th Street, Northwest, Washington 5, D. C.

Deadline for returning completed applications is May 1. They are to be mailed to Mrs. Dorothy J. Cornett, 4310 S.W. 14th St., Coral Gables 34, Fla. Mrs. Cornett is chairman of the American Hearing Society's Teachers Committee.

Winner of the Kenfield Memorial award is entitled to take a teacher training course in lipreading from any school or university in the United States acceptable

to the Teachers Committee. The scholarship is to be used within one year from the date of award.

A satisfactory applicant for the award must be a well-adjusted person with a pleasing personality, legible lips, good speech and voice and no unpleasant mannerisms. Graduation from college with a major in education, psychology and/or speech is a requirement.

Specifications for a hard-of-hearing contestant include 30 clock hours of private instruction in lipreading from an approved teacher or 60 hours of lipreading in public school classes under an approved teacher. Rules for competition state that an applicant shall plan to teach lipreading with or without other types of speech or hearing therapy.

PHYSICIAN PILOTS ORGANIZE

Some time ago several physicians simultaneously conceived the idea of forming a national society of flying physicians. Initial action was started by Mark E. DeGroff of Tulsa, Olkahoma, medical equipment manufacturer, who offered to act as a central office until preliminary arrangements could be made. A notice in the AOPA *Newsletter* brought forth over one hundred interested inquiries. About twenty-eight physician pilots attended the American College of Surgeons meeting in Atlantic City and twenty-four attended the AMA session in Miami. It was felt that enough interest was shown to warrant an attempt to organize.

It was decided that the purposes of this society should be scientific, educational, and social. Physicians have a considerable influence which should be passed on to everyone to promote greater aviation safety. Further, physicians who have this interest could learn much about the technical aspects of flying from association with each other.

The immediate objectives are: compilation of a complete list of physician pilots; appointment of temporary local area chairmen; the collection of ideas and suggestions; and encouraging physicians to fly to the AMA Meeting at Atlantic City, June 6-10, 1955.

A scientific and social program can be arranged at Atlantic City, if enough interest is shown.

Physician pilots who are interested are requested to send their names, plane flown and landing field to the local chairman of their area, or, if not known, to H. D. Vickers, M.D., 25 Jackson Street, Little Falls, New York, temporary chairman.

MENTAL HEALTH GRANT

The Hamm Foundation of St. Paul has announced a new grant to St. John's Institute for Mental Health at Collegeville, Minnesota.

Except for a nominal tuition fee to be paid by participants, the Foundation gift will cover the complete cost of three week-long pastoral psychology workshops to be held next August at St. John's University for clergymen of all faiths who are interested in mental health problems.

The first series of workshops were held last August. Originally planned for clergymen of the Upper Midwest, the workshops also attracted participants from California, Nebraska, Kentucky, Missouri, Illinois, Rhode Island, Washington, D. C., and Canada.

Minnesota physicians who served on the faculty were Doctors C. Knight Aldrich, Louis L. Flynn, Adelaide Johnson, Hyman S. Lippman, Howard P. Rome, and Clarence J. Rowe.

The second series of pastoral psychology workshops will be held next August. The following Minnesotans have been named as full-time faculty for next summer: Doctors David A. Boyd, Howard P. Rome, Don Hastings, and Louis L. Flynn. Other physicians, such as Dr. Adelaide Johnson and Dr. Hyman S. Lippman, will serve as special lecturers.

NORTHFIELD CITY HOSPITAL

On January 5, 1955, the Northfield City Hospital Staff elected the following officers for the year 1955: Chief of Staff, George N. Rysgaard, M.D.; Vice President, Robert F. Mears, M.D.; Secretary-Treasurer, Donald Peterson, M.D.

The Staff meets once a month for business and a scientific program, and once a month for a pathological conference conducted by Dr. John I. Coe, pathologist.

CONTINUATION COURSES

A continuation course in *Emergency Surgery for General Physicians* will be presented by the University of Minnesota, March 31 to April 2, at the Center for Continuation Study. The management of injuries and other acute surgical problems will be taken up in detail. The program will be presented under the direction of Dr. Owen H. Wangensteen, professor and chairman, Department of Surgery.

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The University of Minnesota and the Minnesota Heart Association will join in sponsoring a continuation course in *Cardiovascular Diseases for General Physicians* which will be held at the Center for Continuation Study from March 21 to 23. The common cardiovascular disorders will be discussed and treatment will be emphasized. The course will be presented under the direction of Dr. C. J. Watson, professor and head, Department of Medicine.

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A continuation course in *Gynecology for General Physicians* will be presented by the University of Minnesota at the Center for Continuation Study from April 14 to 16, 1955. This year's course, which will be presented under the direction of Dr. John L. McKelvey, Professor and Head, Department of Obstetrics and Gynecology, will deal with the general problem of vaginal bleeding. The various causes of vaginal bleeding will be discussed from the standpoint of diagnosis and management.

* * *

The University of Minnesota will present a continuation course in *Radiology for General Physicians* from April 11 to 13, 1955, under the direction of Dr. Leo G. Rigler, Professor and Head, Department of Radiology.

Registrants for the course will spend most of their time in the University Hospital Department of Radiology reading films and carrying out procedures in association with members of the faculty of that department. A minimum of didactic material will be presented. Because of the nature of this course, registration will be strictly limited. Early application is therefore suggested. Accommodations will be available in the Center for Continuation Study as usual.

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The University of Minnesota announces a continuation course in *Allergy and Chest Diseases for General Physicians* to be held at the Center for Continuation Study from April 18 to 20, 1955. Special emphasis will be placed on the management of commonly-met problems in these fields. Skin testing methods will be demonstrated and discussed. The program will be presented under the direction of Dr. C. J. Watson, Professor and Head, Department of Medicine.

LICENSURE EXAMINATION

An examination for medical licensure will be held by the Minnesota State Board of Medical Examiners beginning on Tuesday, June 14, 1955, continuing on Wednesday and concluding with a practical examination on Thursday, June 16, 1955. Applications for such examination, accompanied by required credentials and fees, should be on file thirty days prior to the examination at the headquarters office, 230 Lowry Medical Arts Bldg., Saint Paul 2, Minnesota.

RAMSEY AUXILIARY REPORTS ACTIVITIES

Mrs. L. T. Simons

The Woman's Auxiliary to the Ramsey County Medical Society resumed its activities after a short holiday rescess. On January 17, a Board meeting was held in the Medical Library, with Mrs. W. P. Gardner, Saint Paul, president, presiding. Members made cancer dressings during and following the meeting.

On January 24, a luncheon meeting was held at the Athletic Club. The program consisted of a showing of a rehabilitation film. Winners of the TB Essay Contest read their prize-winning essays at the luncheon.

A delegation of Ramsey County auxiliary members attended the annual Mid-Winter Board meeting of the Woman's Auxiliary to the Minnesota State Medical Association, held on February 10 at the Town and Country Club. Officers and state committee chairmen presented reports, and members enjoyed a pleasant luncheon.

In Memoriam

DENNIS MICHAEL O'DONNELL

(Continued from Page 133)

He was a member of the West Central Minnesota Medical Society, the Minnesota State Medical Association, and the American Medical Association.

Dr. O'Donnell is survived by his wife, Florence, and one daughter, Kathleen.

LEON GRANT SMITH

Dr. Leon G. Smith, prominent Montevideo physician and long-time councilor active in the Minnesota State Medical Association, died of a heart ailment at his home in Montevideo, January 13, 1955. He was sixty-seven years old.

Dr. Smith was elected Third District councilor to the Minnesota State Medical Association in 1947, serving through 1954, when he retired because of ill health. He has been active and well known in the western part of the state for many years for his activities in medical organization work. He served as president of the Camp Release District Medical Society in 1925 and 1926, having served on various committees also. For many years he was a member of Chippewa County's Advisory Committee to the Division of Social Welfare, and was also a member of various other state and county committees.

Dr. Smith was born on September 27, 1887, at Benson, where he obtained his preliminary and high school education. He received a B. S. degree from the University of Minnesota in 1909 and graduated in medicine in 1910. He then served a one-year internship at Minneapolis City (now General) Hospital.

He served in the Army Medical Corps during World War I and took several postgraduate short courses at Dyon, France, during this time. Dr. Smith has practiced at Montevideo since 1912, except for his war service and two years of practice at Buffalo, Minnesota.

He was a member of the Camp Release District Medical Society, the Minnesota State Medical Association, and the American Medical Association.

Dr. Smith was a staff member of the Montevideo Hospital and served for many years on the local Board of Education.

He is survived by his wife, Edith; four children, William G., Greenwich, Conn.; Mrs. Paul Larson (Margaret), Sacramento, Calif.; Eugene A. and Leon Gordon, both of Montevideo; one sister, Mrs. Grace Osborne, Minneapolis, and fifteen grandchildren. His parents and one sister preceded him in death.

Of General Interest

Dr. and Mrs. Titus C. Kreuzer of Marshall, Minnesota, are on an extended European vacation. They will fly to Lisbon, Portugal, then tour Spain, before settling down for a month at Palma de Mallorca.

Before returning home in April, the Kreuzers also plan to visit France.

* * *

Dr. H. L. Williams, of the Eye, Nose and Throat Department, Mayo Clinic, Rochester, is scheduled to present a paper on "Ménière's Disease" at the annual convention of the American Medical Association in Atlantic City, New Jersey, which will convene June 6-10, 1955.

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Dr. Merrill D. Chesler, Minneapolis, spoke on "Traumatic Deformities and Their Reconstruction" at a luncheon meeting of the Junior Section of the Hennepin County Bar Association in Minneapolis, January 28, 1955. The talk was illustrated with slides in color.

* * *

Dr. Della Drips, Oronoco, is the Medical Woman of the Year for Branch Twenty-six, of the American Medical Women's Association, for Minnesota. "Her pioneer investigations in the field of hormones; her study of gynecologic endocrinology in Berlin; the development of the first laboratory in this field at the Mayo Clinic; her authoritative knowledge of the subject; and her readiness and ability to teach, has resulted in many warm friends among those who have been privileged to know and work with her."

Dr. Drips retired from the active practice of medicine and her specialty of gynecology at the Mayo Clinic in 1949.

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The January issue of *The Journal of the American Medical Women's Association* is the special number of Branch Twenty-six, Minnesota, with **Dr. Nellie N. Barsness,** Saint Paul, as guest editor.

Articles included were "Anoxia and the Surgical Patient," **Dr. Margaret C. Anderson,** Mankato; "Primary Amenorrhea," **Dr. Della G. Drips,** Oronoco; "Cerebral Vascular Accidents," **Dr. Marguerite Schwyzer,** Saint Paul; and a special article, "Alaskan Interlude," by **Dr. Catherine Burns,** Albert Lea.

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Dr. David M. Potek has opened offices for general practice at 3657 Emerson Avenue North in Minneapolis following completion of a fellowship at Glen Lake Sanatorium, which he began in January, 1952. Dr. Potek was engaged in practice in International Falls from 1936 to 1940. He served in the Army from 1940 to October, 1945, when he returned to International Falls for a six-year period.

Four physicians and surgeons who recently completed fellowships in the Mayo Foundation have been appointed to the staff of the Mayo Clinic. They are **Drs. Richard Reitemeier, Norman G. Hepper** and **Paul A. Green,** all in general medicine, and **Dr. C. Roger Sullivan,** who will be in orthopedic surgery.

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Dr. Gordon R. Kamman of Saint Paul spoke at the January 11 meeting of the Cerro-Gordo County Medical Society in Mason City, Iowa. Dr. Kamman's topic was "Psychometrics in General Practice." About fifty society members were present.

* * *

Dr. and Mrs. Gilbert Wheeler were honored by the Roseau Lions Club recently. The Wheelers, who have resided in Roseau for several years, are moving to Winnipeg, where Dr. Wheeler will take a four-year course in radiology.

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Recently appointed county jail and work farm physician is **Dr. John V. Thomas** of Duluth. He succeeds **Dr. Cyril Smith,** coroner-elect and former jail physician, and **Dr. J. W. Ekblad,** Duluth, retiring coroner and workhouse physician.

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Dr. Leo A. Nash of St. Paul attended the fortieth annual meeting of the Radiological Society of North America in Los Angeles, California.

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A Clinton man, **Lt. Paul A. Williams,** was one of eighty-three Air Force physicians to receive diplomas recently from the School of Aviation Medicine at Randolph Air Force Base, Texas. He is presently assigned to the USAF infirmary at the Harlingen Air Force Base, Texas.

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President of the staff at Murray County Memorial Hospital for 1955 is **Dr. Hugh D. Patterson,** Slayton. Vice President is **Dr. Thomas Harada** of Lake Wilson, and secretary is **Dr. D. D. Nywall** of Slayton.

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Dr. S. F. Haines has been re-elected chairman of the Mayo Clinic board of governors. **Dr. J. T. Priestley** will be vice chairman; **J. W. Harwick,** secretary; and **Dr. H. R. Butt,** second vice chairman.

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New president of the Blue Earth County Medical Society is **Dr. J. J. Eustermann** of Mankato. He succeeds **Dr. R. W. Kearney.** Other new officers include **Dr. William S. Chalgren,** vice president, and **Dr. George R. McNear, Jr.,** secretary-treasurer. The election was held at the December annual meeting. Delegates to the Minnesota State Medical Association will be **Dr. Orville Jones** and Dr. Chalgren.

Dr. Philip R. Heise of Winona was elected president of the Winona County Medical Society at the group's quarterly meeting last month. Other officers named for one-year terms are: **Dr. W. O. Finkelnburg,** Winona, vice president; **Dr. L. J. Wilson,** Winona, secretary, and **Dr. Pat Rollins,** St. Charles, treasurer.

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Dr. Chester E. Thiem, Mankato, has been elected to serve another term as president of the Immanuel Hospital medical staff. Others elected to positions on the Mankato hospital staff are **Dr. H. O. Morgan,** Amboy, and **Dr. B. Niles Batdorf** of Good Thunder. Re-elected to the executive committee were **Dr. James Anderson** and **Dr. Robert Engstrom,** both of Mankato, with **Dr. Mervin W. Dobson,** Mankato, as new committee member.

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At a regular monthly meeting of the staff of St. Michael's Hospital, Sauk Centre, **Dr. A. B. Nietfeld** was elected president of the staff. **Dr. J. F. DuBois, Jr.,** will be vice president, and **Dr. F. H. Baumgartner,** Albany, will be secretary.

* * *

New president of the Red River Valley Medical Society, succeeding **Dr. Alan McKaig** of Red Lake Falls, is **Dr. Harold Thysell,** Crookston. **Dr. Byron R. Kinkade** of Ada was elected vice president and **Dr. R. O. Sather** was named secretary-treasurer. Guest speaker at the meeting was **Dr. James Garvey** of Minneapolis, who talked on emotional disturbances of children.

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Dr. Roger W. Ridley, a member of the Mayo Clinic staff since 1948, has resigned to enter private practice in Riverside, Calif. Dr. Ridley has been a consultant in the section of anesthesiology and intravenous therapy at the Clinic and an instructor in anesthesiology in the Mayo Foundation since 1948.

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Dr. Stanley S. Chunn of Willmar, formerly associated with the Lakeland Medical Center in Willmar, is now engaged in private practice. Dr. Chunn specializes in eye, ear, nose and throat.

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Dr. K. A. March of Cambridge, former chief of staff at the Community Hospital, has moved to San Diego, where he will take up his practice.

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Dr. Samuel Miller, former radiologist at the Naeve Hospital in Albert Lea and in hospitals at Wells and Blue Earth, has joined the DePuy-Sorkness medical clinic in Jamestown, North Dakota. Dr. Miller, who once practiced general medicine in Jamestown, will specialize in radiology.

* * *

Dr. Maxwell Barr was elected chief of Maternity Hospital, Minneapolis, at the hospital's annual medical staff dinner meeting on January 18. He succeeds Dr. Milton Abramson in the office. Other officers include **Dr. Marie Moorhead,** vice president; **Dr. Francis Swain,** secretary, and **Dr. Sidney Scherling,** treasurer. Chief speaker at the meeting was Dr. John Randall, professor and chief of obstetrics and gynecology at the University of Iowa.

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After completing a three-year residency in obstetrics and gynecology at the Mayo Clinic, Rochester, **Dr. Walter Eisenman** has moved to Hibbing, where he is associated with the Mesabi Clinic. He was formerly with the clinic for four years, practicing in Coleraine.

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Copies of a book written by the late **Dr. J. A. Sanford** are now available at the Sanford Hospital, Farmington. The book, entitled, "A General Practitioner Speaks," was written by Dr. Sanford over a number of years and deals with the subject of general practice. Dr. Sanford died on November 15, 1954, while doing the final proofreading for the volume.

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At a meeting of the Mahnomen County board of commissioners in January, **Dr. Kenneth W. Covey,** Mahnomen, was named as a member of the county board of health.

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Dr. W. H. Valentine, Tracy, president of the county tuberculosis and health association, announced that a tuberculin testing survey was carried out at schools in Marshall from January 24 through February 4.

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The board of commissioners of Mille Lacs County has elected **Dr. W. R. Blomberg,** Princeton, a member of the county board of health.

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Dr. Bernard J. Spencer, Minneapolis, has been elected a diplomate of the American Board of Surgery. A graduate of the University of Minnesota Medical School, Dr. Spencer spent two years as assistant surgical resident at Boston Children's Hospital, Boston, and three years as a surgical fellow at the Mayo Clinic, Rochester. He is now practicing pediatric surgery in Minneapolis.

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The commissioners of Stearns County have appointed **Dr. John B. Beuning,** St. Cloud, a member of the county board of health. **Dr. Charles F. Brigham, Jr.,** St. Cloud, has been appointed Stearns County physician.

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Dr. S. W. Giere, Benson, showed motion pictures he had taken in the Scandinavian countries at a pub-

lic gathering in the Benson high school on January 22.

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Dr. M. Duane Sommerness, clinical director at Fergus Falls State Hospital, was named temporary acting superintendent of Hastings State Hospital in January. He was to serve while Dr. Jorge Lazarte, clinical director at Rochester State Hospital and acting superintendent at Hastings, was on a vacation trip to South America. Dr. Dale Cameron, medical director of the Department of Public Welfare, said that Dr. Lazarte would return to his part-time post at Hastings after his vacation unless a full-time superintendent had been found in the meantime.

* * *

The new West St. Paul Medical Center was opened for the practice of medicine on January 3. The center is staffed by **Dr. J. A. Malerich, Sr., Dr. J. A. Malerich, Jr., Dr. Joseph P. Connolly,** and a dentist, Dr. H. E. Schad.

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Dr. Robert P. Koenig, Paynesville, has reported for active duty in the Air Force. Dr. Koenig, who has been associated with the Myre Clinic at Paynesville for the past two years, expects to be stationed at the Air Force Hospital at Geneva, New York.

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Dr. Paul A. Robertson, Austin, gave a talk on health at a meeting of the Woodson 4-H Club early in January.

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Dr. George Haggard, Minneapolis, celebrated his ninety-eighth birthday on January 18.

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Dr. Charles Mayo, Rochester, is one of forty-one distinguished Americans named to a lifetime appointment on the college of electors of the Hall of Fame for Great Americans. The members elect candidates to the Hall of Fame, which is located on the Bronx campus of New York University.

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Dr. H. P. Van Cleve, Austin, attended a one-week postgraduate course in dermatology at New York University in mid-January, following which he vacationed in Florida for several weeks.

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Dr. Milton M. Howell, Glencoe, has purchased a half-interest in the Glencoe Clinic. Dr. Howell has been associated in the clinic with **Dr. C. W. Truesdale** for the past year.

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Dr. D. H. Bessesen, Olivia, has been elected chief of staff of the Renville County Hospital. **Dr. J. A. Cosgriff, Sr.,** Olivia, was elected vice chief of staff, and **Dr. Donald Metz,** Buffalo Lake, was named secretary-treasurer.

NEW LOCATIONS

Dr. Robert J. Cesnik, who has been associated with Dr. L. M. Evans for the past five years, has entered the Army. He will be stationed at Fort Sam Houston, Texas.

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Dr. James Nixon, who has been in the Navy about two years, has returned to his practice at the Cuyuna Range Clinic at Crosby. **Dr. R. A. Kallsen,** who has been associated with **Dr. C. M. Marshall** and **Dr. R. E. Kelley,** at the Clinic, has left for California to join his family.

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Dr. Donald R. McFarlane, who completed his internship at General Hospital in Minneapolis in July, has become an associate in the Oliver Clinic at Graceville. **Dr. C. J. Swendseen,** who formerly practiced at Alexandria, also is a new member of the Clinic.

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Dr. H. C. Habein, Jr., of Rochester, who was called into active service with the Air Force in November, is now with the Air Force Hospital in Wiesbaden, Germany. Capt. Habein is the son of **Dr. Harold C. Habein** of Rochester.

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Dr. William Furlow, formerly of Belle Plaine, has taken over the practice of the late Dr. R. W. Maertz in Faribault. Dr. Furlow is a native of Rochester.

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Dr. Stanley E. Roberts, a former Fellow in surgery at Mayo Clinic, is now associated in practice with **Dr. Paul F. Meyer** and **Dr. Robert P. Meyer** at Faribault.

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Dr. Bela Gallo is now located at Taconite Harbor after fifteen months at Lake Bronson. Dr. Gallo has accepted a position with the Erie Mining Company.

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Dr. William Hunt, obstetrician and gynecologist of the Mayo Clinic staff, has moved to Fergus Falls, where he is now associated with the Park Region Medical Center.

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Dr. John C. Mickelson has been granted a two-year leave of absence from the Mankato Clinic at Mankato. He began a residency in urology in Durham, North Carolina, January 1.

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Dr. James W. Halvorson, formerly of Goodhue, has purchased the practice of Dr. Martin G. Flom at Zumbrota. Dr. Flom has accepted a position on the staff of the Veterans Hospital, Fargo. Dr. Halvorson recently completed a tour of duty in the Navy.

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Dr. Kermit L. Stensgaard, formerly of Lafayette, California, is now associated with a clinic at Thief River Falls.

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It was announced in mid-January that **Dr. James S. Barr,** formerly of Wells, planned to open a practice at Elmore.

MINNESOTA BLUE SHIELD-BLUE CROSS

Blue Shield News

At its meeting in Miami, Florida, on November 30, 1954, the Board of Trustees of the American Medical Association approved the appointment of a commission to conduct a comprehensive survey of the different types of plans which provide people financial assistance in obtaining medical services. Interest in the matter was stimulated through the Second Conference on Management-and Union-Sponsored Health Centers, arranged by the American Medical Association, and held February 24, 1954, in Louisville, Kentucky.

On August 27, 1954, the Board of Trustees of the American Medical Association appointed a Task Force to consider the desirability of appointing a commission to survey the various types of medical care plans in effect. This Task Force in November, recommended to the Board of Trustees that it appoint such a commission for this purpose.

Among the types of plans which are likely to be studied by the commission are prepaid closed-panel plans, non-contributory closed-panel plans, non-contributory free-choice plans and industrial medical programs. Such plans include the Health Insurance Plan of Greater New York and the Kaiser-Permanente plans of California, as well as many others. In addition to these, indemnity insurance plans, prepaid full payment plans and combination indemnity service plans will undoubtedly be studied by the commission. Such plans include the various Blue Shield plans throughout the country.

It has been reported that the commission will have as its chairman, Dr. Leonard W. Larson of Bismarck, North Dakota, a trustee of the American Medical Association. Minnesota physicians will be interested in knowing that Dr. F. J. Elias, of Duluth, has been appointed a member of the commission. The only member of the commission who is not a physician is Jay Ketchum, executive vice president of Michigan Medical Service. Dr. Leo Price, director of the Union Health Center of New York, is the only physician member of the commission who is not an American Medical Association trustee, delegate or council member. Other members of the commission are Doctors David B. Allman, Homer L. Pearson, Jr., Joseph D. McCarthy, Percy Hopkins, H. Russell Brown, James R. Reuling, H. Gordon McLean, John Conway and William P. Sheppard.

Blue Cross News

Blue Cross, through twenty-five years, has given more people more benefits than all other types of hospitalization plans combined. The start of the Blue Cross plan was made possible at Baylor University Hospital for Dallas school teachers to protect themselves against the sudden cost of unexpected hospital bills. Each teacher paid a small amount monthly into a common fund and this fund paid the expenses of those who had to be hospitalized.

Out of this idea of people helping each other grew Blue Cross. It spread to communities across the nation. Minnesota Blue Cross, one of the pioneer prepaid hospitalization plans, was created in 1933 when there were few, if any, people in the state with any protection against hospital expenses. Since that time, just twenty-two years ago, Minnesota Blue Cross has enrolled over one million subscribers in Minnesota.

Today, throughout the nation, 47 million people are protected by Blue Cross. Blue Cross has grown because it has held fast to its ideal of public service. Its aim still is to help people secure the hospital care they need.

BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical Libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

BOOKS RECEIVED FOR REVIEW

VIRAL AND RICKETTSIAL DISEASES OF THE SKIN, EYE AND MUCOUS MEMBRANES OF MAN. Harvey Blank, M.D., Squibb Institute for Medical Research, Columbia University, University of Pennsylvania; and Geoffrey Rake, M.B., B.S., University of Pennsylvania, Wistar Institute for Anatomy and Biology, and Squibb Institute for Medical Research. 285 pages. Illus. Price $8.50, cloth. Boston: Little, Brown & Co., 1955.

PLANNING FLORIDA'S HEALTH LEADERSHIP —FLORIDA'S HOSPITALS AND NURSES. John M. MacLachlan, Ph.D. 122 pages. Illus. Price $1.50, paper cover. Gainesville, Florida: University of Florida Press, 1954.

DRUGS IN CURRENT USE 1955. Edited by Walter Modell, M.D., Associate Professor of Clinical Pharmacology, Cornell University Medical College. 148 pages. Price $2.00, flexible binding. New York: Springer Publishing Co., 1955.

HEALTH SUPERVISION OF YOUNG CHILDREN. 180 pages. Price $2.00, paper cover. New York: American Public Health Association, 1955.

The volume, "Health Supervision of Young Children," has been five years in preparation and is the product of collaboration by more than sixty prominent professional persons. It bears the endorsement of the American Academy of Pediatrics, U. S. Children's Bureau, National League for Nursing, and Association of State Maternal and Child Health and Crippled Children's Directors.

Latest available information about well infants and pre-school children is organized so as to be helpful to persons professionally concerned with child health, whether in private practice or in the fields of public health, welfare or education.

Part I, planned for physicians, nurses and other professional persons, is a guide to health supervision, incorporating newest techniques in parent counseling and health appraisal and care. It deals primarily with everyday problems in normal development but also gives consideration to the handling of less usual problems and abnormal conditions.

Part II, written especially for professional persons concerned with community health and welfare, is a guide to carrying out child health supervision through the child health conference, the "well-baby clinic" or "child health station."

This is the first of a series of manuals being prepared by the A.P.H.A. Committee on Child Health, under the chairmanship of Dr. Samuel M. Wishik of the University of Pittsburgh Graduate School of Public Health. The text was written by Nina Ridenour, Ph.D., staff consultant to the committee.